Clinical Medicine
and
Surgery

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Dr. Rudolph Matas

IT is interesting to note, in studying the lives of our foremost physicians, how many of them are of foreign birth or parentage. This does not indicate that there is a dearth of high-class medical material in this country, but shows how we have attracted many of the great minds from other lands.

The parents of Rudolph Matas were Spanish, and his father also was a physician, Dr. N. H. Matas. Rudolph is, however, a native American, having been born at Bonnet Carre, a village near New Orleans, September 12, 1860. His family must have returned to Spain during his early years, for he received his preliminary education in Barcelona and Paris. Later they came back to this country, so that his pre-college studies were completed in Browsville, Texas, and Soule's College, New Orleans.

To add to the cosmopolitan character of his early training, he was graduated from the Literary Institute of St. John, Matamoras, Mexico, in 1876, and received his degree as a Doctor of Medicine from Tulane University, New Orleans, in 1880. Washington University, St. Louis, conferred the degree of LL.D. upon him in 1915.

Immediately after his graduation Dr. Matas established himself in New Orleans, where he has practiced ever since.

His interest promptly turned to literary pursuits and to surgery, and his success in both these lines is attested by the fact that he became editor of the *New Orleans Medical and Surgical Journal* in 1883 and held that position until 1895, when he was appointed professor of surgery in the medical department of Tulane University, which chair he still holds.

During the War, Prof. Matas held a commission as a Major in the Medical Corps of the Army, and he is now a member of the Association of Military Surgeons of the United States.

Most of the honors which the medical profession can confer upon one of its members have been accorded to Dr. Matas. He was president of the Louisiana State Medical Society in 1894; of the American Surgical Association in 1909; of the Southern Surgical and Gynecological Association in 1911; of the American Association of Thoracic Surgery in 1920; and of the American College of Surgeons in 1925-26. In addition to these offices he has been Vice-president of the American Medical Association, in 1920, and of the American Society of Clinical Surgeons, in 1908 to 1910. His memberships in various learned and professional societies would fill half a column.

Foreign and international honors have also been heaped upon him. He is a member of the *Societé Internationale de Chirurgie* and honorary member of the *Real*

Academia de Medicina, of Barcelona, Spain. He was honorary president of the Pan-American Medical Congress at Washington, D. C., in 1895 and a delegate to the surgical section of the Seventeenth International Medical Congress in London, in 1913.

Dr. Matas' literary activities have been extensive. He is the author of a number of monographs and treatises on surgical subjects and a frequent and helpful contributor to medical journals and textbooks. He is the inventor of several surgical instruments and of the operation of endo-aneurysmorrhaphy, which bears his name. His fame in blood-vessel surgery is world-wide. The Boston Surgical Society has recently awarded him the Bigelow medal for his contributions to the science and art of surgery.

The doctor is still a comparatively young man and seems to be at the height of his powers and it is to be hoped that he will be spared for many years to continue his valuable labors and to give the world the benefit of his wide and varied experience and ripe judgment.

Nothing is so great a service, nothing so great a gift, as to give another an opportunity for a task worth while and the achievement of that success which comes in the doing.—William H. Burnham.

TUBERCULOSIS, THEN AND NOW

In the wonderful story, "Nicholas Nickleby", Charles Dickens has left us a vivid picture of tuberculosis as the people of his generation knew it.

"There is a dread disease which so prepares his victims, as it were, for death, which so refines it from its grosser aspect and throws around familiar looks unearthly indications of the coming change—a dread disease in which the struggle between soul and body is so gradual, quiet and solemn, and the result is so sure, that day by day and grain by grain the mortal part wastes and withers away so that the spirit grows light and sanguine with its lightening load, and feeling immortality at hand, deems it but a new term of mortal life—a disease in which death and life are so strangely blended that death takes the glow and hue of life, and life, the gaunt grizzly hue of death—*a disease which medicine never cured, wealth warded off, nor poverty could boast exemption of—which sometimes moves in giant strides and sometimes at a tardy pace, but slow or quick, is ever sure and certain.*" (The italics are ours.)

The older members of the profession can remember a time when the outlook in this disease was almost as gloomy as that portrayed by the immortal novelist—when the number of cases and deaths was steadily increasing and the world was alarmed at the conditions.

It is refreshing to contrast the present status of tuberculosis with that of the middle of the last century; and it is good for us to look back at the mileposts along the road that preventive medicine has traveled in the last generation or two.

A coordinated and vigorous assault upon the stronghold of this great destroyer, by the medical profession and all cooperating agencies, has now placed tuberculosis among the less-dreaded diseases, so that today we feel capable of restraining its ravages and returning its victims to useful life, provided we recognize the condition sufficiently early.

In view of these facts we are warranted in taking an optimistic view of the possibility of controlling the other diseases, including cancer, which now menace the race most gravely.

If we all lend the full weight of our moral and professional support and efforts and activities to the progressive program of preventive medicine, there seems, really, to be no visible limit to what can be accomplished in freeing the world from the thraldom of disease.

The only true failure consists in giving up. Every effort you make adds to your power and lessens the strength of your temptations.—Annie Besant.

TULAREMIA, RABBITS AND STUDY

How do we become acquainted with new diseases?

This comes about because some physician who is thoroughly familiar with the symptoms and course of the *known* diseases encounters a case presenting features which do not belong in the picture and, not content with lazily remarking, "O, well, this is probobly a case of influenza"—or some other disease, is consumed with an enormous curiosity to find out why the condition is not typical, and *works* and *studies* until he *does* find out. No lazy, careless or slipshod man ever made any material contribution to medical science.

One of the newer diseases for whose discovery America is entitled to complete credit is tularemia, about which there is an abstract on page 230 of this issue. This disease was fully worked out by Dr. Edward Francis, of the U. S. Public Health Service, who, in 1919, definitely established the

cause of the malady and gave it a name (from Tulare County, California, where it was first recognized).

At first it was thought that this condition was found only in the West—Utah, Wyoming, Idaho, Montana, Texas and Arizona—but after it had been described reports began to come in from other states, so that now we know that it has occurred in Ohio, North Carolina, the Virginias, Mississippi, Indiana, Pennsylvania and the District of Columbia. If more men had been on the job, instead of calling it "glandular flu" or "atypical typhoid' or something like that, it might have been originally described in the East.

Most of us can remember when it was generally believed that pellagra was confined to the poor peasants of Italy, and we therefore never considered that disease in making a diagnosis. Then some fellow with an enlarged bump of curiosity got to *wondering* and made a tentative report of a few cases in this country. As soon as someone took off the blinders for us we could *all* see it.

Tularemia is a *serious* disease, frequently causing death, and is not so very uncommon, about 200 cases having already been reported, and we should all be on the lookout for it. There is no specific treatment, so far, but that will come. Meanwhile, let us all help in the investigation. Blood specimens from suspicious cases should be sent to the U. S. Public Health Laboratories, Washington, D. C., with a descriptive letter.

The chief source of infectious material seems to be rabbits, of all varieties, and if you encounter a case showing symptoms like those outlined in the abstract we have mentioned, inquire promptly whether the patient has been handling these animals, alive or dead, or eating their flesh. Freese, Lake and Francis have shown that infected rabbit meat, fried over a hot fire for ten minutes, still has, near the bones, material capable of transmitting the disease.

Ticks and lice from live rabbits can transmit the disease to man by biting him; or it may enter from a scratch on the skin while dressing infected carcasses. This latter seems to be the common way, in the East. It is interesting to note that practically all laboratory workers who have handled the organism have contracted the disease. It takes high enthusiasm and devotion to do work like that!

Tularemia is not *contagious*, being, in many respects, similar in its epidemiology to malaria and yellow fever.

There are two morals to this tale: *study* until you know what you are about, *observe* carefully and *investigate* every peculiar case *thoroughly*, not forgetting that the state and private laboratories can often help you; and beware how you handle rabbits!

The man who is entirely ignorant is easily guided: the wise man is still more easily led: but even the Supreme Being himself cannot influence the smatterer.—Sanskrit Proverb.

BIG NEWS OF 1926

It is always interesting to consider the things which people are reading with the greatest avidity, for we thus obtain some sort of index of the progress which civilization is making. It has been a heartening experience to find Will Durant's "Story of Philosophy" among recent lists of "best sellers".

The story told by the big news features of the year just past is not quite so encouraging; but it contains much reason for wholesome optimism.

According to the *New Republic* the ten occurrences which were accorded the largest amount of space in the newspapers during 1926, as estimated by a number of prominent editors, were, in the order of their "news" importance:

1.—The Hall-Mills murder trial.
2.—The general strike in England.
3.—The Dempsey-Tunney fight.
4.—The death of Rudolph Valentino.
5.—The trans-Arctic flight of the "Norge".
6.—The visit of Queen Marie, of Roumania.
7.—The Florida hurricane.
8.—The "World-Series".
9.—Commander Byrd's flight to the North Pole.
10.—The struggle between Pres. Calles and the Roman Catholics in Mexico.

Six of these stories contain matter of permanent worth and value: The general strike in England opened up several profound and vital sociologic problems, which are not yet solved; the conquest of the poles of this spheroid which is the field of our present activities, while having no discernible practical importance, is of serious historical and geographic interest; the coming of Queen Marie, though it appears to have been largely a press-agent "stunt", was a new and unusual experience which may prove to have considerable consequences in various ways; the disaster in Florida had interesting points for the meteorologist and the historian (as well as for real

estate speculators), and was filled with vital, human interest which may have a slight but permanent effect upon the character of the Nation; while the clash of interests in our sister Republic to the South reopens the oft-recurring question of the relations between Church and State.

Of the remaining four stories only one (the Hall-Mills case) turned largely upon the element of crime, with the factor of sex as a background. Valentino may have been a great artist, but few cool thinkers, of either gender, will deny that his chief appeal was that of sex. The two sporting events in the list appealed partly on their merits and partly because of the perennial lure of gambling—not very high motives, possibly, but certainly not inherently debasing.

In all of them, except the visit of Queen Marie and the death of Valentino, we feel safe in saying that the element of conflict was what attracted many readers—the struggle between man and man, between various classes of men, or between man and the elemental forces of Nature. That may not be a profoundly spiritual basis for interest, perhaps, but it is one of which we have no cause to feel ashamed.

Of course, there were a number of crime and sex stories which occupied hundreds of columns of newsprint, but there were also many stories of more permanent value which did the same.

On the whole, there seems reason to feel that our arboreal ancestors who first came down out of the trees and walked on their hind legs, need not feel ashamed of the progress we are making.

Once upon a time a criminal lawyer was supposed to know the law. Now he has only to think up some new disease.—*Indianapolis Star.*

ARSENIC

Arsenic is one of the heavy metals—a primitive element—and occurs in nature as steel-gray, lusterless, metallic crystals or as a heavy, black powder without taste or odor. It is not used in this form in medicine, and when one says he is "giving arsenic" he usually means arsenic trioxide (arsenous acid—"white arsenic"), which is a white powder, also tasteless and odorless, slowly soluble in cold water and freely so in solutions of alkalies and alkali carbonates.

Physiologic action.—Arsenic has been used both *externally* and *internally* in medicine, but the former use is now practically obsolete since newer and better methods have been introduced. It depended upon the fact that when this drug is brought in contact with denuded surfaces and "sores" it exercises a powerful destructive effect on the tissues. It was and, to some extent still is, the main ingredient in quack "cancer pastes" and was formerly used to some extent by reputable physicians for removing warts, corns, condylomas and the like.

Given internally, in therapeutic doses, arsenic has little effect on the *circulation*, what there is being mildly stimulant. Large doses depress the heart.

Small doses distinctly stimulate the *respiratory center;* but large quantities depress it.

The chief therapeutic effect of arsenic seems to be to stimulate the *trophic nervous apparatus* and exalt the resisting power of the body. Medicinal doses decrease *tissue waste*, while larger amounts increase nitrogenous metabolism.

It is, therefore, a stomachic and general *tonic*, increasing appetite and digestion, stimulating the sexual appetite and mental activity and tending to prolong the period of youthfulness and vigor.

Absorption, Retention and *Elimination.*—Arsenic may enter the body by the mouth, the skin or the lungs, and its absorption rate varies with the route and the condition of the tissues. It is deposited in the liver and kidneys and, to a less extent, in the walls of the gastrointestinal canal and even in the muscles and bones, where it may remain, sometimes for months. It is *excreted* rather slowly, chiefly by the kidneys but to some extent by all of the secreting organs. Its presence in the milk of nursing mothers who are taking it may cause gastrointestinal symptoms in the infants.

If this drug is given regularly, in increasing doses, a marked *tolerance* can be developed, so that quantities several times the lethal amount (up to 7 grains) may be ingested without ill effects.

Untoward Effects.—The earliest symptom of overdosage is the appearance of itching and *edema of the eyelids.* If this appears the drug should be promptly discontinued or the dose considerably reduced. If given beyond this point, salivation may occur, with gastrointestinal distress, vomiting and dysenteric symptoms. In susceptible persons it not infrequently causes skin eruptions of all sorts, usually with irritation of the dermis. Herpes zoster may appear or a scarlatiniform rash, followed by desquamation.

Acute Poisoning.—The lethal dose of arsenic varies considerably with different persons but is generally held to be from 1½ to 2½ grains. If larger doses are given they are sometimes so rapidly ejected from the stomach and bowels that death does not ensue.

Within an hour after taking a poisonous dose of arsenic, abdominal distress comes on, with nausea, constriction in the throat, severe cramps in the belly and, later, a profuse, serous, blood-streaked diarrhea, resembling the "rice-water stools" of cholera. The urine is decreased, concentrated and shows much albumin; or it may be completely suppressed.

If the patient lives for several days, as commonly occurs (4 to 6 days is the usual time), there will probably be pains in the extremities, general depression of the heart and respiration and death from collapse. *Fatty degeneration* of all the organs is found at autopsy and the drug is recovered chiefly from the liver.

The symptoms so closely resemble those of Asiatic cholera and cholera morbus, as well as those following any severe irritant of the gastrointestinal system, that confusion may readily arise.

Chronic Poisoning not uncommonly occurs by handling arsenical prepartions, by breathing the dust from wall papers colored with arsenic, by eating certain types of cheap food products and in other unexpected ways.

The symptoms here are quite different. In one class of cases we find dermatitis with brown pigmentation of the skin, sometimes resembling psoriasis, with or without keratosis or desquamation; in another nervous symptoms — multiple neuritis, with darting pains and sensory or motor paralysis, sometimes simulating tabes dorsalis; and in still others, irritation of the mucous membranes, with eruptions of the skin, falling hair and cachexia. When the poison is inhaled, severe coryza, asthma and bronchitis frequently occur. Perforating, painless ulcer of the cartilaginous portion of the nasal septum is rather common.

Treatment of Poisoning. Acute.—In all cases an *antidote* should be administered. These are: Freshly precipitated hydrated sesquioxide or iron, made by adding sodium carbonate, magnesia or even ammonia to tincture of the chloride of iron; magnesium oxide; dialyzed iron; and the prepared "arsenic antidote" kept by many pharmacists. After the antidote the stomach should be cleared by lavage or emetics, and demulcents, such as egg white, given. Opium or morphine are needed to control irritation and pain; and stimulants, hypodermically, if collapse seems imminent. Large quantities of water should be administered to flush the kidneys and dilute the poison. If dehydration is extreme, hypodermoclysis or intravenous saline infusions should be resorted to.

Chronic.—In chronic poisoning we must first find the source of the poison and remove it. We must distinguish it from lead poisoning (by the blue line on the gums and lack of skin discoloration, in the latter). *Sodium thiosulphate* and potassium iodide help in clearing up the condition.

Therapeutics.—Arsenic is one of the finest general *systemic tonics*, especially in the form of the *cacodylates* of iron, sodium and strychnine, given hypodermically, in cases of *"neurasthenia"* and *general debility.* It is almost specific in *chorea* and of great value in all forms of *anemia.* In *leucocythemia* and *pseudo-leukemia*, if given in full doses (to the point of tolerance), it produces good results.

Arsenic is second only to quinine for the prophylaxis and treatment of *malaria*, especially the more chronic forms, and is widely used in the more chronic, dry, scaly *skin affections*, such as psoriasis, lichen and the like, but should never be used in moist eruptions.

It is helpful in *chronic nasal conditions, hay-fever, phthisis* and *asthma*, as well as in the *vomiting of pregnancy* and of *alcoholism. Gastric atony, ulcer* and even cancer are often benefited.

The use of the various *arsphenamines* in the treatment of *syphilis*, yaws, trypanosomiasis and like diseases, including, perhaps, *mumps*, would need a complete volume for its adequate presentation and is well known to all physicians. The cacodylates and atoxyl have also been used for the same purpose but are much less efficient here, though they have a place in treating certain cases of tuberculosis and other conditions where parenteral medication is indicated.

The use of *acetarsone*, by mouth, in certain cases of syphilis, where injections cannot be given, has produced some results, and this organic preparation of arsenic is proving itself almost specific in *amebic dysentery.* We are scarce over the threshold of the domain of treatment by organic arsenicals.

Dosage and Administration. — Children bear arsenic better than adults, and girls better than boys. Because of its rather slow elimination it should not be given at frequent intervals. It is well to increase the dosage gradually, then decrease, and then rest a few days. Puffiness of the eyelids is a sign to stop it altogether.

When arsenic is given for direct action on the stomach it should be administered before meals. When general systemic action is required—and this means in most cases —give it after meals.

The preparations most commonly employed are *arsenic trioxide* and *Fowler's solution* (*Liq. Potassii Arsenitis*). The adult dose of the former is 1/40 to 1/20 grain; of the latter, 1 to 5 drops at the beginning, gradually increasing. Children take rather larger doses, in proportion to their size.

Other salts of arsenic acid, such as the arsenates of strychnine, iron, quinine, etc., are gaining favor with many practitioners and their use seems highly rational, as the valuable effects of arsenic can thus be reenforced according to varying indications. The dosage is practically the same as that of the trioxide, or slightly larger.

Every physician should thoroughly familiarize himself with the possibilities of this potent and valuable drug.

Knowledge directs a man what is to be done and what is not to be done; but wisdom directs him how to do things.—H. R. Carter.

COLLOIDS IN MEDICINE

The cells and fluids of the body are, from a chemical standpoint, complex arrangements of various elements in colloidal form, as distinguished from the crystalloidal solutions which result from the molecular subdivision which takes place when a salt is dissolved in the ordinary way. These colloid solutions contain the substances in extremely minute *clumps* of molecules and, for that reason, will not pass through a dialyzing membrane.

There is reason to believe that certain colloidal preparations, among them colloidal gold, were known to the students of the Middle Ages; and Faraday examined a definitely colloidal specimen of this metal as early as 1857. But it was not until 1861 that Thomas Graham first gained an understanding of the nature of the suspensions and began to apprehend the possibilities of their therapeutic application. It was he who coined the words: Colloid, Crystalloid and Dialysis. The first colloidal preparation to be used clinically was Graham's dialyzed iron, which was introduced in 1867.

The essential difference between the effects of a crystalloid and a colloid is that the former acts with great energy and almost instantly—unless in dilute solution and in the presence of colloids; while the latter produces its results more slowly. resembling the action of enzymes, due, probably, to its increased surface energy. The sudden, energetic and corrosive action of silver nitrate and bichloride of mercury are well known; as is also the milder, and slower action of colloidal preparations of these metals.

The colloidal sols are among the most effective therapeutic resources at our disposal, and the wide divergence of opinion as to their powers and properties appears to be due to a lack, on the part of various investigators, of a thorough knowledge of colloid chemistry and the fundamental differences between the behavior of these preparations and that of the crystalloids.

Of the various colloids now in clinical use, the preparations of silver are most widely known and generally employed. These go back to the discovery, in 1889, by the American chemist, M. Carey Lea, of "allotropic silver", which was, in reality, colloidal silver.

The silver colloids are extensively used by those who specialize in diseases of the eye, ear, nose and throat, as well as by urologists, dermatologists and, in fact, in almost all fields of medical practice. Their soothing, astringent and germicidal effects upon all mucous membranes and upon certain types of skin lesions are too well known to require more than mention. They lack the irritating and caustic properties of silver nitrate and, though some of them are unsightly and cause considerable staining, there are others which are free from this disadvantage while possessing all the desirable properties of the best of these preparations.

Among the conditions in which the silver colloids have given excellent service are gonorrheal infections of the urethra and the eye; simple conjunctivitis and keratitis of all sorts; blepharitis and dacryocystitis; pharyngitis and tonsillitis; rhinitis in all its varieties and infections of the nasal sinuses—argyrol is used in the Dowling treatment for chronic ethmoiditis; many types

of inflammations and infections of the male and female genitourinary tract; and, in fact, in almost all diseases of mucous membranes. They are also considerably used in dermatology in treating pyogenic infections of the skin; chronic ulcers; the mycotic dermatoses; bromidrosis of the feet and axillae; and other conditions.

The crystalloidal salts of gold are very toxic, but have been used in small doses for many years in the treatment of various tuberculous conditions and some other chronic diseases. They formed the basis of the well-known "Keely Cure" for dipsomania.

Colloidal gold, as well as the colloids of some other heavy metals—lead, copper, etc.—have recently come into some prominence in connection with the treatment of cancer, and while a number of interesting reports have been published, the results do not seem to be sufficiently marked and consistent to warrant us in heralding these medicaments as cures for malignant disease. There is, however, sufficient basis for further clinical investigation of their efficacy.

One interesting point is suggested by this work; that is the fairly well established probability that colloidal gold has some profound effects upon the body metabolism which, though not fully understood at present, indicate that it may have a field of usefulness in adynamic states of various kinds.

The colloidal sulphides of mercury, copper and arsenic have been used in a considerable number of cases of acute and chronic respiratory affections, such as influenza, pneumonia, tuberculosis, etc., and decidedly favorable results have been reported—sufficiently so to warrant their further extensive trial in these cases.

Aluminum hydroxide in colloidal form has been recommended in the treatment of gastric ulcer and hyperacidity. Colloidal antimony and manganese have been used locally in coccogenic skin diseases, and the former has given some results when injected intramuscularly in bilharzia, leishmaniosis and granuloma pudendi. Palladium, nickle, iodine, sulphur and other metallic and nonmetallic elements and salts, in colloidal form, have been used and recommended by a few investigators.

The study of colloid chemistry is very new, comparatively, and is so closely intermingled with that of physiologic chemistry in general that the two will probably proceed hand in hand.

As therapeutic substances, the colloids are still newer—so much so that their use may still be said to be in its infancy—but the results obtained by certain workers are so striking that we are forced to pause and consider. It seems entirely reasonable to believe that here we may be approaching the beginning of a new era in the history of medication.

Men ceased to be savages when they began to be chemists, and chemistry will be more in demand as civilization advances.—Dr. Edwin E. Slosson.

GROWING UP

The newspapers have recently adopted a perfectly good technical word and so distorted it from its original meaning that one will soon be afraid to use it in its proper connotation. The space-writers use the word "moron" as a euphemism for a sexual deviate of any variety; while the dictionary gives its meaning as, "A feeble-minded person whose mental age is between 8 and 12 years".

By no means all who are technically morons are sexual deviates of any kind, but they do show variations from the recognized standards of adult conduct, and there are those who feel that the principal reason why so many of our national problems still await an adequate solution is because an unduly large proportion of our citizens have never grown up, psychically.

What, then, are the chief differences between the outlook of a child and that of an adult? It is not a difference in the ability to think quickly; in retentiveness of memory; in manual cleverness or dexterity; in capacity to do a good day's work of certain sorts; or in a number of matters in which, as we all know, children and young persons frequently excel. It is a difference in the *way of looking at life*.

The child of twelve years may work well, under supervision; may take hold of his studies in a way wholly impossible to his father; and may be very skillful at a variety of occupations. But the keynote of all his reactions is *irresponsibility*. He has no idea to what ultimate end he is putting forth his efforts and feels surprised and misused when he experiences the inevitable results of his acts, even though he has been informed in advance as to what those results will be.

The adult plans ahead and adapts his daily activities to the attainment of certain

goals. He thinks before he acts and, having decided upon a course of procedure, accepts the consequences philosophically, if not joyously. He realizes his responsibilities to himself, his family, his associates and his community and strives to adjust his conduct so as to meet those responsibilities as completely as possible.

While he takes life seriously, that does not mean that he is gloomy or melancholy. In fact, the severe cases of mental depression are not found in healthy adults, but in the young or those who are mentally ill. He enjoys his times of recreation and play with all heartiness, and maintains a keen and wholesome interest in other matters besides those by which he earns his daily bread. But, unlike the child, he always plans his work and his play so as to extract the utmost value from them for himself, while considering always the interests, welfare and happiness of those with whom he is associated, as well as the wider values of the community and national life.

There are many minor symptoms and indications that a child mind is inhabiting a mature body, but these can all be found in any recent book on psychiatry and are well worth studying. Here we wish merely to emphasize the fact that the adult is characterized by a sense of responsibility for his own acts, of forethought in connection with his work and play, and of respect and consideration for the rights, opinions and comfort of others. Without these general characteristics no man can be considered fully grown up.

If any thing is seriously wrong with the rising generation—of which there seems to be much doubt—it is that they are not being taught to develop these characteristics, but are being encouraged or permitted to carry their childish viewpoint into years that should be those of discretion.

Here is a serious problem for the study of the medical profession: The family doctor is in a peculiarly fortunate position for tactfully bringing home to those of his patients who have not grown up the importance of acquiring the adult outlook, and to those who are, themselves, full-grown, the vital necessity of inculcating these principles in their children and of giving them a chance to wrestle with their own problems, meet their own responsibilities and take the consequences of their own acts. Only by such exercises can the mental sinews be developed and hardened; and no nation of children, however large they may be, physically, can ever maintain itself for long.

The world needs and must have, *men and women*, of full mental stature, if our civilization is to endure and progress to further heights of achievement.

Leading Articles

Conservative Treatment of Diseased Adnexa

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AFTER observation of a large number of cases of pelvic infection, I desire to present some aspects of the conservative treatment of such conditions. Many cases of diseased adnexa can be dealt with conservatively with time and care if the physician would realize that success can be attained without resort to active surgical measures. Under proper treatment peritoneal irritation, pelvic exudates, infiltrated adnexa, pus tubes and tubo-ovarian abscesses may be rendered sterile, in time become absorbed and, in many instances, surprising as it may seem, the patient becomes productive.

W. Wayne Babcock[1] says, "No antiseptic, no drug, no operation can replace the detoxicating and antiseptic action of cells, serum and pus found in the peritoneal cavity in acute peritonitis. Truly, the early liquid exudate of peritonitis is a genuine 'laudable pus' to be conserved and protected." Polak[2] says that no case of acute salpingitis needs to be operated upon. I may add that even cases of subacute or chronic salpingitis, or of adnexal inflammation, usually require conservative operations only. This fact has been forcibly impressed on me in my own series of cases, of which some of the histories are given below. The patients showed signs of lesions ranging from generalized or localized peritonitis to bilateral pelvic masses of various sizes, or exudates in the posterior culdesac. These cleared up under treatment directed to increase the patient's resistance, particular attention being paid to nutrition, rest and the Fowler position. Elimination was facilitated by rectal irrigations; fluids were supplied by mouth whenever the patient could retain them without much distress or by the Murphy drip, hypodermoclysis, or intravenous injections of glucose or salines. Ice bags and, in some cases, heat were used, also cardiac stimulants, sedatives for pain, and at times small transfusions of from 200 to 500 cc. of blood. Fresh air and sunshine were considered of great importance. In time the acuter symptoms would abate, the peritonitis usually subsided, and the inflammatory process would begin to localize itself, as shown by pelvic examination through the rectum or vagina.

When localization had taken place a pelvic exudate was often found in the posterior culdesac or bilaterally in the broad ligaments. At this stage nonspecific proteins were employed. These can be used intravenously, in special preparations, or, better still, in the form of ordinary milk (Gellhorn[4]; Jarcho[5]). The protein injections cause the pelvic masses to diminish rapidly in size so that pelvic examination soon shows thickened and tender tubes as the only remaining trace of the exudate.

Nonspecific Proteins

In resorting to nonspecific protein therapy in pelvic infections, I was so much influenced by the work of Gellhorn[3], and my results were so satisfactory, that I desire to quote him verbatim: "Protein substances introduced 'parenterally'; that is, by subcutaneous, intramuscular or intravenous injection, have the faculty of stimulating the cells of the body to greater activity—of 'activating the protoplasm.' All cells of the body feel this rejuvenating influence and none more so than those cells which have been weakened or paralyzed by infection. These cells seem to obtain a new lease of life; some of their normal vigor returns and their natural means of defense becomes reassembled." The method of administering this treatment was fully described both by Gellhorn[4] and by the author[5].

When most of the exudate has been cleared away and the adnexa can be outlined, many a conservative surgeon begins to wonder whether the time has not arisen where surgical interference might be justifiable and removal of the affected tubes were not advisable. My cases substantiate the belief that, in time, the remainder of the inflammation usually resolves itself, ren-

dering any mutilating operations on the internal genitalia unnecessary; thus the patient retains her organs as the reward for her courage during the trying days of confinement to bed and the unpleasantness of the treatments.

The surgeon, if he operates on patients in the acute or subacute stage, finds that he has a very difficult piece of work to perform. Adhesions are usually encountered and are separated with difficulty; at times the gut, bladder or ureters are injured; and after the operation is finally completed, the patient is very sick for several days. The surgeon and staff spend many uneasy moments before the patient is nursed back to life. The longer the surgeon waits the easier is the operation and the less severe the postoperative course. The question then arises, why operate at all on such cases?

When the inflammatory process becomes quiescent, prolonged hot douches can be used[4] and hot air treatment may be cautiously commenced. In this connection one must note the investigations of Bier[5] on the beneficial effects of active hyperemia in the treatment of active inflammatory processes. This treatment produces an increase in arterial blood supply which promotes absorption; thus swelling and pressure on nerves are decreased and pain is relieved. Diathermy is also helpful[6]. If the pelvic masses are hard, colpeurynters filled with mercury may be introduced into the vagina while the patient is held in the Trendelenberg position for 15 to 30 minutes.

Conservative Operations

In my opinion, only conservative operations are indicated. H. M. Little and staff, at the Montreal General Hospital, have successfully used injections of 10 percent spirits of turpentine in liquid paraffin. The patient is laparotomized; pus, if present in the tubes, is aspirated through a puncture in the wall of the tube, and 1 to 3 cc. of the turpentine-paraffin is slowly injected. The abdomen is closed without drainage.

Doctor Little has stated that there were no untoward effects in any of the cases observed. The leucocyte count rises, there are no severe reactions, and the recovery is uneventful. Some of the patients subsequently gave birth to healthy children.

The procedure described deserves consideration. It should, however, be attempted only when all acute symptoms have subsided, and all unnecessary manipulations should be avoided.

Some cases of pelvic infection will be erroneously diagnosed as appendicitis and operated upon; in others the symptoms of appendicitis will be so pronounced that the surgeon will be compelled to operate for this condition, despite the fact that the adnexa are known to be acutely diseased. This fact was forcibly impressed on me by one of my patients. In such cases one should not disturb the tubes nor the adhesions around them; moreover, the close anatomical relation between the appendix and the ovary must not be forgotten. The mesoappendix is often prolonged to the broad ligament by a fold—Clado's ligament; i.e., the appendico-ovarian ligament. In this fold the lymphatics of the appendix and ovary blend, so that infection may travel from one organ to the other when either is affected[7].

Type of Cases Treated

Most of my patients were young women. Some were married a few weeks, months or years. They had been infected by husbands acutely ill with gonorrhea, or had slow infections from consorts who had had several attacks of gonorrhea at various times or were still under treatment for strictures of the urethra or prostatitis. While these men did not show any gonococci, their urines were never altogether free from shreds and pus. Some of the women would become pregnant and abort spontaneously, after which lesions would develop, either acutely or insidiously. Some had one or two children and were left after deliveries with lacerated pelvic floors and cervices and for years kept having profuse and at times offensive leucorrhea, pain in both iliac fossae, backache and menorrhagia. These patients would be incapacitated a few days premenstrually; they had dysmenorrhea and would suffer for several days following their menses. Some had exacerbations of inflammations of greater or lesser severity.

These patients, with lacerated infected cervices, after a preliminary treatment for the acute affections and, whenever possible, enforced abstaining from cohabitation, were subjected to some form of cervical operation for removal of the diseased portion of the cervix. Most often the coring-out of the infected portion of the cervix led to a cure and stopped the recurrence of the pelvic lesions. Many of the patients, after enjoying a period of health, would be desirous of becoming pregnant and I would begin to insufflate them cautiously.

Tubal Insufflation

It is important to know that no attempt at insufflation should be made until all signs of inflammation have subsided, nor should any marked subjective symptoms or any pronounced lesions on pelvic examination be present.

At the beginning no undue force should be used in insufflating, and therefore the pressure of the gas should not be too high. It is better to repeat the attempts if the tubes are found to be occluded and at every successive attempt the pressure may be increased slightly. In such cases it is better to laparotomize the patient and, while the cannula is in the cervix, to allow the gas to flow in. One will find that if the occlusion is not in the isthmus the tubes will balloon, and can be opened up at the fimbriated end or at the point of obstruction. A plastic operation can be performed on the tube and a new stoma formed. If the obstruction is at the isthmus, as in salpingitis nodosa, the isthmus may be resected and the tubes implanted.

Unterberg[10] reports several cases operated upon in that manner and in one case a living child weighing 7½ pounds at term was delivered without assistance, except that an episiotomy was done on account of the age of the patient, who had a rigid perineum. She was allowed to leave the hospital in average time.

Dr. Arthur H. Curtis[11] reports, with a photograph of mother and child, a case in which a woman underwent a conservative operation on the tubes four years after gonorrheal salpingitis; subsequently a normal child was born, and at the time of the report the woman was pregnant again. I should urge that these operations be done more often on cases of obstructive sterility following attacks of adnexal inflammation.

Case Reports

Report of cases: (Taking space for only those parts of the histories which have seemed most essential.)

Case 1.—D. B., age 24 years, housewife; admitted to Beth David Hospital September 25, 1926. No children; no abortions.

Present Illness.—Continuous drawing pain on the left side of abdomen, following menstruation. Whitish discharge from vagina, moderate in amount. Husband had gonorrhea during her married period.

Abdominal Examination.—Moderate tenderness on pressure in lower part of abdomen, more marked on the left.

Pelvic Examination.—Uterus of moderate size, anteflexed, movable. Both adnexa thickened (size of thumb); nodular enlargements felt in the tubes. On the left side the nodules were as follows: one at the isthmus and one at the fimbriated end the size of a pigeon's egg. Smear for gonococci from meatus and cervix, negative. Complement fixation, doubtful.

Diagnosis:—Bilateral salpingitis.

Treatment.—Milk injections. General reaction marked; considerable rise in leucocyte count; reaction and leucocyte count diminished with subsequent injections. Later, hot douches and hot air treatments were given.

Pelvic Examination.—October 23, 1926: Upon discharge the uterus was small in size, anteflexed, freely movable; adnexa not palpable and not tender; cervix directed downward and forward; introitus negative. Patient discharged cured.

Case 2.—H. S., age 19 years; married 2 months; housewife; admitted to Beth David Hospital September 29, 1926.

Present Illness.—Pain of two days' duration in right lower quadrant. Vomiting on the day previous to admission.

Abdominal Examination.—Abdomen distended; no masses; tenderness and rigidity of abdominal muscles in both lower quadrants, especially on right.

Pelvic Examination.—Uterus anteflexed, of moderate size, difficult to outline exactly; bilateral masses; cervix long; tenderness of posterior parametrium. Smear for gonococci, positive.

Diagnosis.—Acute appendicitis and bilateral acute salpingitis.

Treatment.—Operation, under gas-oxygen anesthesia, September 29, 1926. Acutely inflamed appendix removed. Excessive free fluid was present. Exploration of the pelvis revealed bilateral masses in the pelvis; i.e., an acute, bilateral salpingo-oophoritis. Abdomen closed without drainage.

Results.—Good recovery. Patient now ambulatory. Pelvic lesions have considerably subsided. Smear for gonococci still positive.

Case 3.—S. K., age 24 years, married 8 years; 1 child of 8 years; 1 abortion at 4 months, 7 years ago; admitted to Beth David Hospital, September 17, 1926.

Present Illness.—Drawing sensations in left lower quadrant of abdomen; leucorrhea and frequency of urination for the last year; abdominal pain more severe for the last two weeks, confining her to bed. A doctor wanted to curette her uterus for the pain and discharge.

Physical Examination.—Uterus anteflexed, of moderate size, movable; cervix directed downward and forward, hypertrophied; thick muco-pus exuded from cervix. Both adnexa large, very tender, hard to define and shading off into surrounding tissues of pelvis. In posterior culdesac, indefinite fullness and tenderness. Smear from meatus and cervix for gonococci, negative. Introitus negative.

Diagnosis.—Acute, bilateral salpingo-oophoritis and posterior parametritis.

Treatment.—Patient put in Fowler's position; ice caps; rectal irrigation; sedatives for pain; and cardiac stimulants. Nourishing liquid diet. Acute symptoms subsided and seven milk injections were given at

three- and five-day intervals. The adnexa on successive examinations were more easily definable and reduced in size and on October 10 the pelvic examination revealed right adnexa thickened, slightly tender and the left hardly palpable. Patient received hot douches, hot air and weighing treatment with colpeurynter of mercury.

Result.—October 31, 1926; uterus moderate in size, anteflexed; adnexa not palpable; right fornix slightly sensitive. Patient discharged cured.

Case 4.—I. U., 30 years of age; married 3 years; no children, no abortions.

Chief Complaint.—Sterility. Claimed that husband never had venereal disease. Husband admitted to me that he had gonorrhea 2 years before his marriage.

Pelvic Examination.—Uterus moderate in size, anteflexed, freely movable; adnexa, on each side, about 1.5 cm. in diameter. Smear from meatus and cervix for gonococci, negative.

Diagnosis.—Bilateral, chronic salpingitis. Sterility.

Treatment.—After four months' treatment the patient was insufflated. Pressure was raised to 200 mm. and the tubes found occluded. Treatment continued for another three months and a second trial at insufflation was successful; the tubes became patent. Shortly afterward the patient became pregnant and was delivered of a healthy child.

Case 5.—A. A., age 29 years; para 2, gravida 3; housewife; last miscarriage, of 4 months' gestation, 7 weeks ago, spontaneous. Admitted to Beth David Hospital August 25, 1923.

Present Illness.—One week after miscarriage developed pain in back, felt very ill at ease and on occasions had sweats and chilly sensation.

Pelvic Examination.—Cervix directed downward and forward, lacerated and eroded; uterus, size indistinct—appears to be that of about 7 weeks' pregnancy—surrounded on the right side by an ill-defined mass which became more indistinct at the periphery; left fornix quite free; perineum lacerated; small rectocele. Temperature 101° to 102°F.

Blood Count.—Leucocytes 15,000; polyneuclear 87 percent.

Diagnosis.—Exudate in right broad ligament.

Physical Examination on discharge, October 3, 1923.—Uterus moderate in size, retroposed and dextroverted; left adnexa, negative. On right side, a mass about 4 cm. in diameter, slightly movable on pelvis and on uterus. The mass was not movable with motions of uterus. Posterior parametrium free. Mass was about one-fifth of the size on admission, when it practically filled the entire pelvis, forming, with the uterus, one continuous mass. Cervix lacerated on right side. Introitus lax.

Treatment.—Patient was treated conservatively; on discharge from hospital was taken care of as an ambulant case. The mass cleared up entirely. Patient became pregnant eleven months afterwards and aborted. Was taken care of in the hospital. Wassermann test on herself and husband negative. Complement fixation for gonorrhea, doubtful. Six months afterward became pregnant again and now has a healthy child.

Case 6.—M. L., age 26 years; housewife; married 5 years; no children, no abortions. Admitted to Beth David Hospital July 6, 1925.

Chief Complaint.—Sterility.

Past History.—Two years prior to admission had gonorrhea which she had contracted from her husband.

Pelvic Examination.—Uterus moderate size, retroflexed, slightly movable; cervix conical, directed upward and forward; adnexa not felt; introitus small.

Diagnosis.—Sterility; occlusion of the fallopian tubes; adherent retroflexion.

Treatment.—Operation July 8, 1925—midline abdominal incision. Uterus found retroflexed and adherent to large intestines and culdesac; tubes adherent to posterior surface of uterus deep in the pelvis. Nozzle of Machlett apparatus introduced through vagina into cervix and the oxygen turned on. Left tube opened and free gas escaped; right tube ballooned. An incision was made in center of distal extremity of right tube and 4 fine catgut sutures put in wall of tube approximating the mucous membrane of tube to the serosa in such a manner that the fimbriated extremity of the tube remained open. The oxygen was turned on again and it escaped freely through the newly formed stoma. A Crossen modification of the Gilliam operation was done; thus putting the uterus in anterior position. Abdomen closed without drainage.

Results.—Patient discharged in good condition July 22, 1925. Patient examined February 8, 1926, feels perfectly well. Uterus in good position. Adnexa not palpable. Patient abstaining from cohabitation on account of husband's having contracted another gonorrhea.

Case 7.—H. G., age 34 years; married 14 years; housewife; 1 child of 13 years, instrumental delivery; two miscarriages 8 and 9 years ago respectively.

Present Illness.—Pain in lower abdomen coming in attacks which incapacitate her for weeks. Also pains of intermittent nature just before, during and a few days after menses; offensive leucorrhea of several years' duration.

Pelvic Examination.—Uterus anteflexed, moderate size, freely movable; adnexa 2 cm. in diameter, very tender; cervix directed downward and forward, bilateral, deep lacertions, hypertrophied, eroded and cystically degenerated. Thick muco-pus covering cervix and exuding from vagina. Lacerated pelvic floor. Bulging of posterior vaginal wall. Smear taken from meatus and cervix for gonococci, negative. Was given ambulant treatment for six months. Admitted to Beth David Hospital October 13, 1926. *Conditions on admission* same as on previous examination except that these

symptoms were less severe and the adnexa were diminished considerably in size, palpable but not tender.

Diagnosis. — Lacerated, eroded cervix; lacerated pelvic floor.

Treatment.—Patient was operated upon October 14, 1926—Amputation of cervix; perineorrhaphy.

Result. — Patient discharged as cured October 31, 1926.

Conclusions

1.—Most cases of diseased adnexa can be treated conservatively with good results.

2.—Subacute, quiescent or chronic cases usually require only conservative operations.

3.—The longer an operation is deferred, except in emergency cases, the better the result.

4.—In selected cases, laparotomy may be performed and turpentine in paraffin injected into the tubes.

5.—One must bear in mind that with acutely inflamed adnexa there may be a concomitant affection of the appendix, which may be resultant from the adnexal trouble or independent of it. The appendix may require removal but the adnexa need not be disturbed.

6.—Freeing of adherent tubes, resection and plastic operations on tubes should be done more often, after a long period of treatment and when the inflammation has become quiescent.

7.—Conservative treatment is not necessarily nonoperative; timely and conservative operative interference is often advisable.

8.—No case of subacute pelvic infection, especially of gonorrheal origin, should be deprived of the benefit of a trial of nonspecific protein treatment, no matter how empirical this method may seem, since clinical results justify its use.

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The Surgical Anatomy, Differential Diagnosis and Treatment of Inguinal Hernia

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UNDER the term "hernia" is understood a protrusion of some one or more abdominal viscera, through a normal or abnormal opening. The term "rupture" commonly used by the laity for this pathologic entity is misleading. This term originated at a time when it was generally believed that direct or indirect traumatism plays an important role in exciting this ailment.

The last 25 years of surgical work on hernia have proved that, in the very great majority of cases, hernia is due to a congenital defect—either to an entirely or partly open vaginal process of the peritoneum or to an abnormal size of some normal opening in the abdominal wall—while the exciting cause plays but a subordinate part.

Surgical Anatomy

Two varieties of inguinal hernia are known: the oblique or external and the direct or internal. The external inguinal hernia is the most common of all varieties of hernia, 93 percent of all inguinal hernias being external.

This hernia makes its escape from the abdomen through the internal inguinal ring, outside of the inferior epigastric vessels; it passes downward and inward in an oblique direction, parallel to Poupart's ligament, crossing almost at right angles the inferior epigastric vessels and emerging at the external inguinal ring. Taking this oblique course, the hernial sac rests upon a floor formed by Poupart's ligament. The roof of the canal is made up of the internal oblique and tranversalis muscles; the an-

terior wall is formed by the aponeurosis of the external oblique muscle, superficial abdominal fascia, subcutaneous tissue and skin; while the posterior wall is built by the transverse fascia and parietal peritoneum. The internal inguinal ring is situated about half way between the anterior superior iliac spine and the symphysis pubis, about half an inch internal to Poupart's ligament. The external inguinal ring, forming a distinct triangular separation in the aponeurosis of the external oblique muscle, extends medially to the spine of pubis, this bony prominence being one inch lateral to the symphysis pubis.

The external ring is bounded laterally by the intercolumnar fibers; above and below by the two pillars of the aponeurosis; and medially by Colle's ligament, which is formed by fibers of the aponeurosis of the opposite side, crossing each other in the median line. Normally, the external ring barely admits the tip of the index-finger. The internal ring cannot be palpated at all.

The contents of the inguinal canal just described is the spermatic cord in the male and the round ligament of the uterus in the female. Both structures have an intimate relationship to the hernial sac in the oblique inguinal hernia, which when passing beyond the external ring and entering the scrotum is called scrotal hernia; entering the labia majora, in the female, is known as labial hernia. In large hernias of long duration the inguinal canal may become dilated and so shortened as to almost entirely lose its original obliquity.

Incising the aponeurosis of the external oblique muscle in the direction of its fibers, the internal oblique muscle is seen. Upon the exposed surface of this muscle, close to its lower margin, there runs, parallel to its fibers, the ilioinguinal nerve. The transversalis muscle is not seen, being hidden behind the fibers of the internal oblique. The spermatic cord lies parallel to the lower margin of the internal oblique muscle, covered by some fibers of the same and of the transversalis muscle, forming the cremaster muscle, this latter extending downward to the testicle.

In its normal descent into the scrotum, the testicle and spermatic cord, and, therefore, also an oblique inguinal hernia, derives one of its coverings from the cremaster muscle and from a thin layer of fascia, called the cremasteric fascia, which is merely a continuation of the superficial abdominal fascia. In order to expose the spermatic cord, it is necessary to divide this fascia. Unless this is done, the cord cannot be lifted without traumatism.

The integral parts of the spermatic cord are: the vas deferens, the spermatic artery, the spermatic veins (forming a dense venous mass, the pampiniform plexus) and a very fine vessel, the deferential artery, deriving from the inferior vesical artery and accompanying the vas deferens. There exists also within the spermatic cord a fibrous string, the remains of the obliterated vaginal process of the peritoneum.

When lifting the cord away from its bed, Poupart's ligament is exposed. This ligament extends from the superior iliac spine to the spine of the pubis and is merely a thickened portion of the aponeurosis of the external oblique muscle and is continuous with the fascia lata of the thigh.

When following the spermatic cord upward, the inferior epigastric vessels are encountered. Their course is an important landmark, determining whether an inguinal hernia is external or internal. In case of external inguinal hernia they are situated medially to the hernial sac.

The hernial sac, which escapes in oblique inguinal hernia through the internal inguinal ring, is of various size and shape, and can best be compared to a glove-finger-like protrusion of the parietal peritoneum. After the hernia has existed for a long time, the hernial sac frequently becomes thickened as a result of previous inflammatory changes, caused mostly by traumatism. The sac may become constricted at certain points, giving it an hour-glass appearance, may become adherent to opposed surfaces, and adhesions may form between the sac and its contents. Under certain conditions the hernial sac may be incomplete, as in sliding hernias of the cecum and sigmoid colon, and occasionally in hernia of the urinary bladder. In these cases the sac, anteriorly, is like an ordinary hernial sac, while posteriorly it is continuous with the cecum or sigmoid colon itself.

An internal or direct hernia emerges from the abdomen through an opening which is internal to the inferior epigastric vessels. This opening is bounded laterally by the inferior epigastric vessels, and internally by the edge of the sheath of the rectus muscle. The floor of this opening is formed solely by the transversalis fascia and parietal peritoneum. This variety of inguinal hernia has a short, vertical course, protrudes through the external inguinal ring, forming

here a spherical mass, which never descends into the scrotum and is often bilateral. It is usually found in adult males. A considerable part of the protrusion consists of preperitoneal fat, which is very abundant in this region. The hernial sac is usually small, having a broad base and no relationship with the cord at all. Due to its close vicinity to the urinary bladder, this latter can often be found adherent to the outer surface of the hernial sac. This variety of hernia is really a ventral hernia appearing in the inguinal region and merely due to a weak place in the transversalis fascia.

Differential Diagnosis

The diagnosis of an inguinal hernia is, in most cases, easy to make, although there are a number of pathologic conditions in the inguinal region simulating a hernia. There is usually a tumor in the groin, of varying size and consistency according to its duration and contents. Hernias containing intestine are of smooth outline, elastic on palpation and tympanitic on percussion. If omentum alone is present in the sac the outline of the tumor is more irregular, the consistency more firm and the percussion note dull. In many cases, in the early stage of a hernia, the tumor is noticed only on coughing or straining, and a characteristic impulse can be felt on the palpating finger. As a routine, the external inguinal ring should always be explored with the index-finger, by hooking up the scrotal skin and introducing the finger into the ring.

If the hernia is reducible, the tumor disappears with a distinct gurgle either in the recumbent position or on manual pressure. If irreducible—this being due either to abnormal size of the sac, to surrounding adhesions or to strangulation—the tumor does not disappear at all.

Most of the errors in diagnosis are made in cases of irreducible hernia and here many difficulties are encountered.

The condition most often mistaken for an irreducible inguinal hernia is hydrocele. This can be distinguished from hernia by the absence of the transmission of the impulse on coughing or straining; by being dull on percussion; by giving the sense of fluctuation on palpation; and by being translucent to light. This latter symptom, however, is often misleading, especially, when the tunica vaginalis of the testicle is very thick. The most reliable differential diagnostic sign is the sharp upper margin of a hydrocele, which does not extend into the inguinal canal, while in hernia the scrotal protrusion can be easily followed along the inguinal canal and the spermatic cord cannot be felt, while in hydrocele the normal spermatic cord can be easily made out.

Inguinal lymphadenitis, either subacute or chronic, especially those of tuberculous origin, may simulate the presence of an irreducible inguinal hernia. The previous history, tenderness, consistency and infiltration of the surrounding tissues will be sufficient to rule out a hernia.

Psoas abscesses from tuberculous spondylitis or from the same process in the pelvic bones often closely resemble a hernia. They give a distinct impulse on coughing and straining. Such abscesses, however, disappear when pressed back on a recumbent patient and reappear in the same position on releasing the pressure. Also, the presence of fluctuation on bimanual pressure will show that this fluctuation is easily transmitted from one hand to the other, the left hand pressing toward the lower abdomen. Psoas abscesses, as a rule, protrude much more laterally than the inguinal hernia.

The diagnosis of an internal inguinal hernia does not offer much difficulty. There is usually a history of slow development, the hernia represents a smooth prominence of globular shape, is often bilateral, in most of the cases reducible and does not enter the scrotum. The exploring finger reveals a circular opening, which passes directly backward into the abdominal cavity, instead of obliquely upward as in external inguinal hernia. The most reliable symptom in making the diagnosis of a direct inguinal hernia is manual compression of the internal inguinal ring after reduction of the hernia; when the hernia is a direct one it will protrude from the external inguinal ring on coughing or straining, while the protrusion of an external inguinal hernia is prevented by the manual pressure upon the internal inguinal ring.

The differentiation between irreducible inguinal and femoral hernia is often very difficult, especially in strangulated cases, where exploration is very painful and dangerous. As a guide it must be mentioned that in inguinal hernia the tumor can be lifted upward from Poupart's ligament by gentle manipulation, but cannot be mobilized sideward, while femoral hernia shows a distinct movability toward either side and none in a vertical direction.

Treatment

In view of the facts that the results of operation performed for inguinal hernias

show a very slight mortality and a high percentage of permanent cures, and that the palliative treatments seldom effect a cure, except in very early infancy, we are warranted in advocating operation in practically all cases.

The few contraindications are:

1.—Very early infancy.

2.—Very advanced age.

3.—Acute or subacute febrile diseases.

4.—Localized skin diseases of the field of operation.

5.—Enormous size of the hernia (being irreponible into the abdominal cavity).

In the case of a strangulated hernia the indication becomes *absolute;* this should be operated upon instantly, and also operation should be attempted in strangulated hernias of enormous size. At least a fecal fistula should be established as a life-saving or life-prolonging procedure. The avoidance of general anesthesia allows also operations upon distressing hernias in cases of more serious organic tuberculosis.

Spinal Anesthesia

The use of local or spinal anesthesia is, in many respects, more advantageous than general anesthesia. The postoperative course is rarely disturbed by vomiting or by pulmonary complications. The absence of both is very desirable, contributing to the undisturbed union of the most important suture-lines. General anesthesia is usually employed in children and in considerably shocked patients with strangulated hernia.

Whether local or spinal anesthesia should be used depends upon the surgeon's judgment and upon his knowledge of the technic. Employing the local or the spinal route, it is advisable to give nervous, restless patients 1/6 to 1/4 grain of morphine hypodermically, half an hour previous to the operation.

For spinal anesthesia either procaine or stovaine should be used; the former in the dose of 3/4 to 1 1/3 grain, the latter in dose of 1 1/3 grain. Both must be freshly prepared by dissolving the crystals in 2 cc. of sterile physiologic saline solution, *without* addition of epinephrin. The solution is injected with a syringe of 2 cc. capacity. The spinal needle should be thin and somewhat flexible. When a thin needle is used, the probability of postpunctural oozing of spinal fluid is lessened, thus avoiding the very annoying postpuncture headache.

The patient is placed on the operating table in a sitting position, with both legs hanging down and the trunk strongly bent forward. In this posture he is held by some one of the operating-room personnel, meanwhile the lower back is disinfected with ether and painted with tincture of iodine. The iodine should then be scrubbed off from a small area, where the injection is to be given, because the needle-point may carry some iodine into the subarachnoidal space, causing a circumscribed plastic meningitis. The iliac crest serves as a landmark for the spinous process of the fourth lumbar vertebra, this being exactly in the level of the iliac crests.

The injection is best made between the spinous processes of the fourth and third lumbar vertebrae, hence the needle must be introduced in this level, closer to the spinous process of the third lumbar vertebra than to that of the fourth, for the spinous processes of the lumbar vertebrae follow a slightly oblique course downward. After piercing the skin with a firm and short push, the needle should be guided by the thumb and middle-finger, the index finger resting on the needle itself, while the left thumb is placed on the site of the puncture. All tissues encountered by the needle are considerably resistent, therefore the needle should be driven firmly and slowly forward, strictly in the horizontal direction. After driving the needle about two inches deep, the stylet must be removed and the needle slowly driven forward and horizontally.

When bony resistance is met, the needle can be withdrawn for about ¼ inch and slightly driven again forward and somewhat upward. A slight click indicates that the dura and arachnoidea have been pierced and immediately follows the dripping of the spinal fluid, of which about 1 cc. is allowed to escape, after which the syringe is attached to the needle and the anesthetic solution slowly injected.

The needle should be removed with a sudden and firm pull and a small piece of sterile adhesive applied to the puncture. The patient is kept for about five minutes longer in the sitting position and at times asked to cough hard and to take long breaths. By this simple measure one can instantly recognize a possible paresis of the diaphragm, this, however, being a rare occurrence and when recognized early can be relieved by a hypodermic injection of 1/60 to 1/40 grain of strychnine. After being sure that there is no such complication

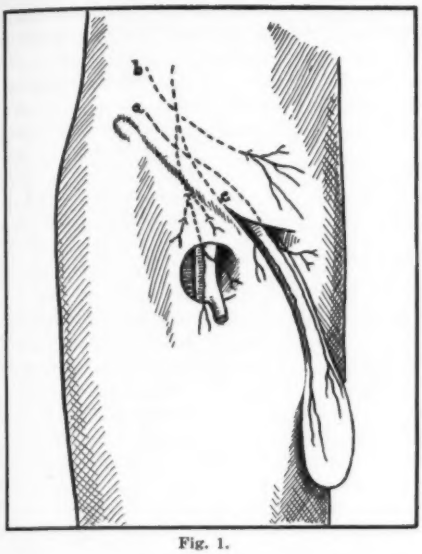

Fig. 1.

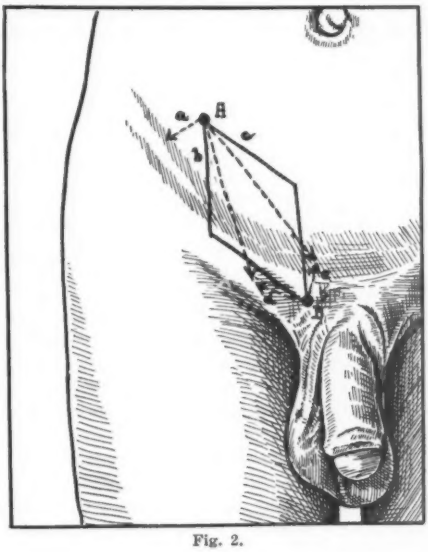

Fig. 2.

present, the patient can be placed in the horizontal position.

The anesthesia is usually absolute after five minutes and lasts about one hour, which time is entirely sufficient for performing the operation even in the more complicated cases.

Local Anesthesia

The technic of local anesthesia for inguinal hernia is not difficult. The nerve supply of the region is shown in Fig. 1, while Fig. 2 demonstrates the chief topographic points of the anesthesia, which can be performed without detailed explanation. The solution usually employed is a ½-percent procaine solution, containing epinephrin (10 drops of a 1:1000 epinephrin solution to 100 cc. of a ½-percent procaine solution.

A 20 cc. syringe is armed with a needle about three inches in length. The injection begins in the level of the anterior, superior iliac spine. Two inches medially to this (Fig. 2, a), the needle is driven vertically through the skin, subcutaneous tissue and aponeurosis of the external oblique muscle. Ten cc. are injected to this point and 10 cc. toward the iliac spine, moving the needle upward, downward and forward until the spine is reached (Fig. 2, a.), so injecting a fan-shaped area, always keeping the needle beneath the aponeurosis. Thus the illioinguinal and iliohypogastric nerves are blocked (Fig. 1, a.b.)

The needle is now somewhat withdrawn and driven beneath the aponeurosis, first downward and outward (Fig. 2. b.), and then downward and inward (Fig. 2 c.), 20 cc. of procaine solution being used for each line. Now the needle should be withdrawn and inserted half an inch deep just below the external inguinal ring (Fig. 2. b.), after lifting the hernial sac with the left hand and pushing it upward. Ten cc. are injected here, thus blocking the external spermatic nerve (Fig. 1, c.) and the spermatic cord.

The needle is now driven upward and outward beneath the aponeurosis (Fig. 2, d.), connecting thus the line, which was injected previously from above. After withdrawing the needle, it is driven again upward and inward (Fig. 2, e.) for the same purpose in the same depth, using 15 cc. of the solution. Completing this infiltration, a square area is subfascially injected, this area including all deeper nerves to be blocked.

Finally another square area should be injected, driving the needle subcutaneously and using about 40 cc. of the procaine solution. By this superficial infiltration the skin and subcutaneous tissue are anesthetized, The entire procedure can be performed by piercing the skin at two points only, causing practically no pain. Very important it is to inject continuously while the needle is driven forward thus avoiding all possible

sensation. One hundred and forty cc. of a ½-percent procaine solution is sufficient for this anesthesia, this amount (less than 12 grains) being harmless in practically all adult cases. When the infiltration is properly done, the anesthesia is absolute after ten minutes and lasts about one hour and a half. By adding five grains bimuriate of quinine to the procaine solution, the duration of anesthesia can be considerably prolonged, but this addition is unnecessary in simple cases. *(To Be Concluded)*

Medical Diathermy in Kidney Disease

By GUSTAV KOLISCHER, M.D., Chicago
Attending Urologist Michael Reese and Mt. Sinai Hospitals.

MEDICAL DIATHERMY is one of the most powerful and most efficient methods we can use in the socalled medical kidney diseases, but success depends upon its proper application, in proper cases. That, of course, like any other method in medicine, must be based on a correct diagnosis.

In former years we said, "Bright's disease" and "nephritis" without any pathologic backing. We now know that, in medical kidney diseases, there are three groups to be considered: One is a disease of the capillaries of the kidney, when there is an infection of the whole capillary system; the second group comprises degenerations of the epithelium of the tubules; and the third is a hardening of the arterioles within the kidney.

In order to understand the pathology and how we arrive at the diagnosis, let me say this: It is the function of the kidney to maintain the proper concentration of the blood. For this purpose it has to eliminate certain end-products of metabolism which are either useless to the body or, if retained, will exert a deleterious effect, mainly on the nerve centers.

All of these products of metabolism are eliminated in the urine; so the kidney has, first, to furnish the water in order to dissolve all of the materials; second, to pick up these materials out of the blood stream; and, finally, to eliminate them. For this double purpose there is a double apparatus in the kidney, one of which is the capillary system represented mainly by the glomeruli, which picks out and eliminates the nitrogen compounds. Any interference with the normal function will express itself in certain clinical conditions.

Diagnosis of Kidney Disease

Until the last ten years or so it was always believed that the examination of the urine, chemically or microscopically, furnished all the information we needed in order to diagnose and treat kidney disease. It is not so. For instance, the appearance of albumin in the urine is simply a danger signal—a challenge to examine the condition of the kidney. We know that albumin may appear in the urine, although there is no essential disturbance of the kidney: For instance, after bodily exertion or in certain young individuals with a rather poor constitution, albumin will appear at any time they are in the upright attitude, and the albumin will disappear when they lie down. There is absolutely no other pathology in the kidney.

Albuminuria has great prognostic value in this way: If we treat any kind of medical kidney disease, and the albumin does not decrease, we know we have to deal with a very serious case, and that the prognosis is rather bad.

Even the appearance of casts in the urine does not qualify the diagnosis of a kidney disease, because casts may appear in involvement of the capillary system or involvement of the tubular complex.

To make a diagnosis of nephritis, with involvement of the capillary system, there are three leading symptoms: First, the appearance of blood in the urine; second, the appearance of hypertension or increase in the blood pressure; and, third, the retention of nitrogen compounds in the blood. The blood chemistry is one of the most important methods of determining and localizing the character of a kidney disease.

The principle of the blood chemistry is this: The kidney has a faculty of adjusting itself to the various offerings, according to the intake. If, for instance, more meat is taken, there is more protein, if more salt is taken, there is more salt. This function expresses itself in blood chemistry in this way: In the normal condition, the range of the changes in blood chemistry is so narrow that if we have an appreciable change, we know there must be something abnormal.

All cases of nephritis must be qualified by the consequences. If the capillaries are contracted or if they are blocked, we have to deal with ischemia; consequently, our therapeutic attempts have to be directed against that condition. That is, we want to relieve the contraction or the blockade of the capillaries in order to restore normal circulation to the kidney.

We know that the function of the kidney or the eliminatory results are based not only on the quantity of the blood that runs through the kidney but on the velocity of the blood stream; the quicker the blood travels, the more end-products of metabolism will be eliminated. That points to another thing: In practically all cases of nephritis, not only the capillary systems of the body but also the heart is involved—and that is but natural as the heart furnishes the propelling power. If the capillaries are blockaded or contracted, the heart has to work harder in order to drive the necessary amount of blood through the blockaded parts. The involvement of the heart is one of the most important points to be considered in any therapeutic effort.

Diathermy in Nephritis

What does diathermy do? What do we intend to accomplish with it? We want to release the impediments to the blood stream. We know that whenever we generate heat, within the body the capillaries will be dilated. That is what we intend to do when applying diathermy to the treatment of nephritis. Consequently, our electrodes must be placed in such a way as to heat the kidneys directly. That is very easily done. We first, of course, have to locate the kidneys. Quite often that can be done by palpation, but the only reliable way of locating the kidneys within the body is to take an x-ray picture which shows exactly where they are and where the electrodes have to be placed.

We place one electrode in front over one kidney and the other one on the back. Both electrodes are approximately the same size, just covering the kidney shadow. Then we turn on our current.

As in all other applications of medical diathermy, it is important not to give too little or too much. It is absolutely impossible to give exact figures which would cover every case, because every apparatus is a unit by itself and each patient has a different resistance. You know we produce the heat by the resistance the tissues offer to the high frequency currents. That has to be determined in every instance and with every patient that is subjected to the treatment.

The best way to regulate the heat is this: As usual we begin with the lowest amount of current. We carefully and slowly raise the current, which we determine most of the time by the amperemeter, to such a degree that the patient reports the sensation of warmth, but not of heat. If the patient reports heat, then we have to go back again. It is very important, in the first place, not to overheat because we may produce a paralysis of the arteries, and also because the heart is involved to a certain extent in any nephritic case. A heart that is either hypertrophied or at the edge of showing fatigue is very touchy so far as heat is concerned. That is especially true if we have to treat the kidney on the left side. There we have to be extremely careful with the amount of heat we apply in order not to overburden the heart. Furthermore, the sitting should not be extended over too long a time, because one of the factors that influence the heart is the time of application and the accumulation of heat that takes place.

If a patient is treated in this way by diathermy to the chest, and the proper amount is given, the patient will feel relieved. If he begins to perspire, and becomes restless you have given too much.

Other Therapeutic Measures

It is, of course, very important not to believe that we are going to cure a nephritis simply by the application of diathermy, but it is a great help because we can thus improve the circulation. We must not neglect everything else in order to treat a case of nephritis successfully. We know that most cases of nephritis are based on focal infection somewhere in the body; for instance, infected tonsils, ulcerated teeth, appendicitis, etc. Furthermore, we know that certain general infections like scarlet fever will also produce nephritis. It is not necessary that the germs invade the kidney directly.

The first demand will be to remove or clean out the original focus; remove the infected tonsil; extract the tooth under whose roots are abscesses; remove the appendix. It is true enough that immediately after the removal there may be a slight flare-up in the nephritis, but that will die down again.

The next thing is to relieve the renal and general circulation. The way to do that is to reduce the fluid intake. It is obvious

that, if the kidney has to move a lesser quantity of fluid, it will not become so fatigued that it cannot attend to its functions properly. One of the mistakes often made in treating nephritis is to "flush" the kidney. The very first thing to do is to *desiccate* the patient. Do not give him any fluids at all for twenty-four hours. Even then, and as long as the nephritis exists, the fluid intake has to be reduced to the lowest amount. The intake of fluid should never exceed about 1500 cc. That is very important.

A third valuable agent is the introduction of foreign proteids, which leads to a helpful reaction. You know, for instance, in epididymitis, the injection of milk will accomplish good results, provided the inflammation has not reached the stage of destruction and the formation of pus. The same holds good in nephritis.

The simplest and safest way to produce such a protein shock in nephritis is to use the patient's own blood. Take 10 cc. and inject it into the gluteal muscle twice a day for two consecutive days. The action is quite often surprising. There is only one precaution to be taken: If the patient is still suffering from acute infection — for instance, from tonsillitis—quite often the injection may produce localized inflammation and abscess. During the acute period this transfusion should not be executed.

The injection of milk is somewhat dangerous in cases of nephritis on account of the reaction on the heart. We can make the statement that practically every case of acute nephritis, if taken care of properly in the initial stages, will heal. We have to use all our wits in order to prevent the development of acute nephritis into a chronic nephritis, because chronic nephritis is hard to deal with and in most instances cannot be completely cured.

If we have to deal with cases of nephritis with extreme hypertension, for instance, such as we find in children occasionally, with a systolic pressure up to 130; and if the amount of urine is reduced, we know we have to deal with extreme intrarenal pressure, and we must relieve that condition. We do it promptly by stripping off the capsule of the kidney, which, again, is not a cure-all but it helps.

As soon as nephritis is diagnosed by the appearance of blood in the urine following acute infection, general or local, if the blood pressure goes up and we find retention of nonprotein nitrogen in the blood, we immediately begin to desiccate the patient and we begin using diathermy the same day. If there is no immediate relief in twenty-four hours, we apply transfusion, provided the acute infection has died down or been removed, and, if necessary, employ decapsulation of the kidney. The quicker you act the better results you will have; the longer you wait the more doubt there will be as to success.

The diathermy treatment has to be repeated, and may be repeated every day if you think it is necessary, until all of the symptoms of nephritis have disappeared. You can do no harm, and you thus keep up the circulation, which is the best thing.

Arteriosclerosis, Tubular Disease and Nephrosis

In arteriosclerosis of the kidney there is a hardening of the arteries. We make the diagnosis mainly by the extremely high blood pressure. Even in women the blood pressure will rise to 230 and 250. Whenever you discover such a high blood pressure it calls for an investigation of the kidney, because such excessive figures, as a rule, are produced only by renal sclerosis. We can furnish the patient relief by heating the kidneys, provided the heart is not fatigued. In this way we dilate all of the arteries. This dilatation will continue for a considerable time and cause more blood to flow, and the elimination will again be increased.

In the tubular disease of the kidney, we can expect nothing from a local application of heat to the kidney, because the disease is not in the vascular system but in the tubules, so we have to go about it in another way.

Here is a physiologic point that is very important for the determination of our therapy. We now know that all the end-products of metabolism are not immediately carried by the blood to the kidney for elimination, but that the kidney functions only as a terminal of elimination. All of these end-products, organic and inorganic, are first deposited in some structures in the body that act as intermediate depositories. The blood stream picks up the metabolic end-products and carries them to the kidney for final disposal. The chlorides are deposited in the subcutaneous cellular tissue and, on account of the deficiency in the capillary system, they are not picked up again and returned to the blood stream for elimination but are accumulated.

If we want to stimulate the capillaries and favor the return to normal function, we will apply the heat over the whole body. Here we use autocondensation; that is, we put the patient on a pad, put an electrode on the chest and run our current up slowly. In this way the whole body is heated to a moderate degree. We know that the increase in the body temperature will lead to a dilatation not only of the arteries but of the *vasa vasorum*—the little arteries that carry nutrition to the walls of the big arteries. In this way, not only the arteries are dilated but their action is increased by their being better provided with blood. In this way the function of the intermediate structure is again raised to normal figures and can act again in the proper way, to pick up the chlorides and return them to the blood stream for elimination by the kidneys.

This alone would not, of course, cure nephrosis, so we have to do something else that is very important and necessary in order to treat that condition. We know that the body, under all conditions, will eliminate a certain amount of chlorides. If no chlorides are introduced into the body, the system has to draw on the deposits, pick them up and eliminate them. Consequently, one of the fundamental therapeutic measures in cases of nephrosis is to take salt away from the patient. In the beginning we eliminate it entirely. When the tolerance is exhausted we have to give very small quantities of it. Then the edema disappears because the surplus chlorides are picked up and carried off and no excessive amounts of water are attracted. The superfluous water is carried off and finally eliminated through the kidneys and partially through the bowels.

In nephrosis there is no hypertension, no blood in the urine, no change in blood chemistry, but reduction in the normal output of chlorides. In these cases we have to resort to general diathermy.

We will help a great deal if, after we are through with our general diathermy, we heat the lower extremities, which carry the greatest amount of subcutaneous cellular tissue. If edema exists, we must keep the heat within very low limits, because the edematous skin is very susceptible and may be burned; whereas normal skin would not be harmed.

Diuretics

The employment of the socalled diuretics calls for discussion. It is true enough that by the employment of certain drugs we can quite often stimulate diuresis. Some of them, however, have very bad side effects on the stomach; for instance, a patient who is undernourished will not bear that condition well and will lose weight and resistance. In nephritics the mercurial diuretics are absolutely prohibited; in nephrosis you may use them, still taking a chance of mercurial poisoning.

In urea we have one of the best diuretics. If you give urea in large quantities you always produce increased diuresis, and you cannot do any damage. You may give urea up to 60 Grams a day without doing any harm at all and always get a pronounced diuretic effect. The way to give it is to dissolve it in twice the amount of hot water—after it is once dissolved, it stays dissolved even when you cool the water—and then administer it by mouth, but *ice cold*. The patient will not resent taking it, and there will be no disagreeable effects on the stomach or any other organs.

Medical diathermy is a very powerful aid in the treatment of medical kidney disease, but it must not be believed that the application of diathermy alone is sufficient to cure those cases. Whatever we do, whether it is medical diathermy or surgical interference or regulation of diet, all of these methods have to cooperate, and the sooner we start the surer will we be of success.

In dealing with nephritis, swamping the patient with enormous quantities of fluid is always a mistake. Even in nephrosis, where the kidney needs a large quantity of water to deliver the necessary amount of urinary salts, the fluid intake has to be kept within reasonable limits; that is, the patient should drink enough so he will not feel thirsty.

The protein intake in nephritis has to be regulated in accord with the findings of the blood chemistry and be reduced to about 70 Grams a day in case of pronounced indicanemia. You can give any kind of meat, provided it is boiled and not fried, in any kidney disease. In a case of nephrosis it is highly important not to let the patient run down by reducing the intake of food.

One of the main issues in treating kidney disease is the maintenance of the power of the heart. Quite often you see acute heart failure in cases of nephritis. By intravenous injection of caffeine you get a quick effect. Later on you can maintain the heart action by digitalis. Small doses of digitalis for a long time, in any case of nephritis or nephrotic involvement, are found very beneficial.

Kidney diseases cannot be looked upon as the disease of one or two organs. Every kidney disease is based on changes in the capillary system of the entire body; consequently, we are not going to get results by treating only these organs. We have to treat the entire system, that is, the regulation of the diet, the importation of artificial heat and watching all the other bodily functions.

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The Technic of Medical Writing

By GEORGE B. LAKE, M.D., Chicago
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THERE are two general reasons why every physician should do medical writing regularly and consistently: For his own benefit and for that of his professional brethren. The research, study and accuracy in keeping records which are necessary for the preparation of a medical article will augment and consolidate the knowledge of the writer; and the publication of his writings will make his name and his work known all over the country, especially to men who are working along the same lines; while the information he conveys will benefit those who read it.

Every man who has practiced medicine even a few years has had some experiences which are peculiar to himself and has worked out methods or arrived at conclusions which represent individual reactions to the fund of information which is common to all studious and thoughtful physicians. The profession is entitled to be put in possession of this knowledge.

New methods are established and old ones modified by the combined experiences of all the men who are using them; but these experiences can be utilized for the advancement of medical art and science only to the extent that they are made available for study by publishing results in the current medical periodicals. Therefore, every doctor should write and should publish his writings.

The only way in which one can learn to write is to *write*. Intelligent and thoughtful practice (please note the adjectives!) brings perfection in any line of human activity. So, if you would write clearly and easily, you must write voluminously.

A good way to obtain satisfactory practice in medical writing is to write up your ordinary, every-day cases in full detail, as if they were the rarest and most interesting conditions in the world and you were preparing reports for publication. From these reports, two beneficial results will ensue: In the first place, you will develop facility in expressing your ideas; and in addition to this, perhaps somewhat to your surprise, you will find that you are gaining a grasp and insight into the conditions of your patient which you never had before. This comes from making the detailed study which is necessary to the successful presentation of a clinical case.

Although this writing is done primarily for its own sake, you will find many of these histories decidedly worth preserving; but if you do not consider them so, have no hesitation about throwing them into the waste basket, for they have served their purpose by giving you the practice in setting forth your ideas with a pencil.

In connection with all this preliminary practice writing, you should criticize your work very carefully, resorting frequently to the dictionary for spelling and to your grammar and rhetoric in order to verify your English construction. Unless this is done, real progress will be very slow. An edifice of any size must rest upon a firm foundation.

Having by such practice acquired a certain degree of ease, fluency and clarity in expressing your thoughts on paper, the time comes, sooner or later, when you decide that you will read an article before some medical society or present it for publication. In this connection, one point should be kept firmly in mind. There are many articles which are fit to be read before certain types of medical societies which are certainly not fit for publication; but there is no article which is fit for publication which can not profitably be read before *any* medical society.

Choosing a Subject

Having come to a decision to publish some of your observations, the first thing is to assure yourself that you actually have something interesting and valuable to say. This does not necessarily mean that it must be something which has never been said before. If you have actually made original observations and have something entirely

new to present to the profession, the form in which you present it is of less vital importance, because the outstanding nature of your matter will overshadow many imperfections in your manner, but *every* article is the better for being carefully written. If, however, nothing were to appear in the medical journals except the new and surprising results of original investigation, many of these publications would have to go out of business within the next six months, because the proportion of original research matter contained in most of them is comparatively small.

The basic truths and interesting facts of the science and art of medicine not only bear repetition, they require it, and there is a large and useful field in current medical literature for adequate summaries of knowledge along various practical lines, for reports of rare and interesting cases, or of new suggestions for the diagnosis and treatment of the ordinary diseases, and for the setting forth of individual opinions on matters of general interest to the profession.

If you purpose writing a summary or review of the literature along some particular line, be sure that you have really covered the ground with reasonable thoroughness. Look up your references carefully then correlate and arrange them to satisfy yourself that you have grasped the important points in the various articles you have consulted. After this pick and shovel work, you are ready to start writing, and your article should be as complete as is compatible with reasonable brevity and as brief as is consistent with reasonable completeness. Both. of these desirable attributes must be kept constantly in mind.

If you are reporting a case, or series of cases, be sure that each one has been worked out as completely as you are able to prepare it, utilizing, of course, such assistance as you will gain from the various laboratories, but remembering that no laboratory can make a complete diagnosis for you. Then present all of the pertinent facts, including full details of dosage and frequency of any drugs administered and all essential points as to technic and methods employed, and, having done so, conclude by making such comments upon them as will draw attention to the important points in your report.

If you are reporting upon original investigations, your article should begin with a brief statement of the thing you set out to discover or demonstrate. Following this should be a detailed resumé of the various steps in your investigation and the results obtained at each step and, finally, a summary of the total end result of your labors and a statement of the conclusions which may logically be drawn from the facts observed.

Whether you ever intend to write or not (but especially if you are an actual or prospective writer) the "*note book habit*" should be acquired. Ideas come to all of us at odd moments and, unless immediately noted, are frequently gone again very soon, never to return. A small blank book, always in the pocket, will serve as a convenient receptacle for these notes, and one who has not followed this practice will be astonished at the amount of really valuable material which will thus accumulate in a short time. Here will be found the stuff of which many worthy medical articles can be made.

The Rough Draft

Having now in your possession a reasonable degree of skill in the manipulation of the English language and the material, all thoroughly coordinated and digested, for the article you intend to write, so that after much thinking you really know what you are going to say, sit down alone with some hours' time at your disposal, with plenty of paper and a handful of good, sharp pencils. If you are able to think at the typewriter, or to dictate clearly and coherently to a stenographer, you may save yourself a certain amount of labor and time by using these methods, but most men who do comparatively little writing usually are wise to make the first draft with a pencil.

Please bear in mind that the suggestions here outlined are merely *suggestions*. Every man will, with experience, develop his own method of procedure which, if it produces satisfactory results, will prove best adapted to the work in hand.

In starting your article, *begin at the beginning*. This may sound like foolishness to some of you, but if you could see the number of articles which arrive in the editorial office of a medical journal whose authors have taken it for granted that we are sufficiently clairvoyant to comprehend all of their preliminary mental processes and have, on that supposition, begun their articles in the middle, you would realize the importance of this suggestion. Begin then, I say, at the very beginning and carry your story through with *absolute completeness* to the very end. Neglect no detail, no matter how unimportant it may seem to

you, but set down everything you know about the subject in hand, in as clear and orderly a manner as you are able. If you do this part of the work properly, you will find that you have covered a great many sheets of paper.

You now have the raw material for making a medical article. Set it aside for two or three days to "cool" and then start working at it. Such a rough draft is by no means a finished piece of work and no talk given more or less extemporaneously, is by any means fit to publish as it is. To give an example of this, I will state that, a few weeks ago, I spoke before a group of physicians, and this talk was reported verbatim by a stenographer. The typed transcription of those notes covered nineteen pages. When the article was ready for publication, it had been reduced to six and one-half pages.

Cutting and Polishing

When you are ready to take up your original draft of the article in earnest, begin again at the beginning of what you have written and read each sentence and paragraph carefully and thoughtfully, and as you do so run your pencil through every word, phrase and sentence which does not carry you forward to some degree in your progress toward the goal you have set for yourself. This does not mean, however, that you should strike out words which are necessary to make good English and sound sense. Some writers feel that they are gaining something by eliminating most of the articles, adjectives and prepositions. This is a false idea. Every sentence should be accurate English and make complete sense in itself and should be logically related to the preceding and succeeding sentence. It is only the *nonessential* words, phrases and paragraphs which should be eliminated, such as personal particulars and reminiscences having no real bearing upon the subject in hand. The paper should now be set aside again for another few days of rest.

Upon your second reading of the paper, watch carefully for mistakes in spelling, English and punctuation, and for ambiguous or "fuzzy" statements of all sorts. Rearrange your words and sentences, or even your paragraphs, so as to present your idea in the best possible form. Check your facts and figures and make sure of their accuracy.

After these two readings, if you have done your work thoroughly, the article should be ready for the first tentative typewritten draft, and this should be made in duplicate so that you can do your subsequent polishing on the carbon copy and then, if the changes made are not too extensive, they can be worked in on the original without recopying the entire article. This, however, may prove to be necessary. When you are ready to make your final copy which is to go to the editor, you should also retain a carbon of this for your own personal files.

The title should be carefully thought out so that when included in an index it will give a definite idea of the material contained in the article. It should contain as few words as possible to give this information. If more elaboration is required, it may fittingly be placed in a subtitle. The title should begin about an inch from the top edge of the first sheet and should be typed in capital letters with subtitles enclosed in parantheses. If the paper has been read before some medical society before its publication, this fact should be indicated at the bottom of the first page, referred to by an asterisk at the end of the title, and should set forth the full name of the organization before which the paper was read and the day when this took place.

Next following the title should come your name, just as you wish it to appear, with your various titles and the name of your city. Below this should appear your various teaching and hospital connections. This information is valuable in determining your status in the mind of the reader. A few dashes should separate this material from the body of the article.

Technical Details

The article itself should be written on white paper of good quality and of standard letter size (8½x11 inches), with double or triple spacing and with margins of an inch or more at each side, so as to allow room for editorial notations. Great care should be given to spelling, punctuation and paragraphing. If you are making a number of bibliographic references, these should be indicated by Arabic numbers, raised slightly above the line and run in one numerical series throughout the article. Footnotes should be indicated by an asterisk and written in at the bottom of the page on which they appear, with a line of dashes separating them from the article. Foreign words and anything else which is to be printed in italics should be underlined.

If your article is to contain tables, they should be embodied in the pages of the

text, unless they are very voluminous, in which case they should be made on separate sheets. Tables and graphs (curves) are very helpful, in some cases, but can readily be overdone. Parenthetical references in the text should call attention to the tables, by number, at the point where their study will prove of interest.

If pictures or diagrams are to appear in the article, each one should be clearly numbered on the back, and on a separate sheet of paper should appear the legends which are to be printed under each cut, numbered serially to correspond with the numbers on the pictures. Photographs to illustrate your article should be clear and bright and printed on glossy paper. If there are to be drawings, these should be made by someone who knows how to draw, with black ink on firm-textured, white paper. Clinical charts are frequently printed with red or blue lines. These will not reproduce in a cut and must be drawn over in black. If any remarks are made on the face of the chart, they should not be written, but *printed* in black ink, so as to render them entirely legible. Remember and act upon the Golden Rule in these matters.

If your are using a bibliography, whether it be long or short, this should be placed upon a separate sheet and the references should correspond strictly to the style adopted by the American Library Association, like this: Thackeray, W.T.: Lobeline sulphate. Clin. Med. 30: 510, July, 1923; Oberbeck, August: Alpha-lobelin in the treatment of asphyxia neonatorum. M.J. & Rec. 122: 40, July 1, 1925. Avoid as a pestilence the practice of copying lengthy bibliographies from other journals which you consult. Include in your list only articles to which you have actually, personally referred. Your readers will be equally capable of finding the bibliographies in these journals you have studied and from which you have quoted.

You have probably noticed that case reports when printed are generally set solid (that is, without leading between the lines). In typing your manuscript, you should give no thought to such matters as that, but every page should have the lines double or triple spaced. The editor will give the printer any instructions necessary about the setting of the type. Some authors are in the habit of *typing* their case reports with single spacing. This is a mistake.

Write out every word that you have to say completely and fully, using *no abbreviations whatever*, except that if numbers are used containing three or more digits, or if quantities or periods of time are mentioned, they may properly be expressed in figures. This is especially true in connection with case reports where it is a common thing to see manuscripts bristling with "t.i.d., p.r.n., Tb., l.o.a.," and the like. If the editor wishes to use abbreviations in the printed article, it is very much simpler to scratch out unnecessary letters than it is to write in missing letters between the lines.

Another matter which should receive careful attention is the use of careless and colloquial phrases. It *may* be perfectly proper in the scrub-up room to remark to one of your assistants that you "operated the patient, although he had no temperature, and have removed the pathology". If, however, you will consider this statement from the standpoint of English grammar, you will realize that it is by no means the kind of a remark that you would wish to have permanently embalmed in type under your name.

The pages of the manuscript should be numbered in sequence in the upper right hand corner or in the center of each page, and when all is complete the *original* copy should be sent to the editor of the journal in which you wish it to appear with a brief letter of transmittal, stating the title of the article and any essential points regarding its appearance. The manuscript should never be rolled, and unless absolutely necessary should not be folded. It is much better to send it flat, with a piece of cardboard in the envelope to prevent crumpling or mutilation. When an editor receives a carbon copy of an article, the suspicion always arises in his mind that the article has been submitted to some other journal. This is an unpardonable offense and if an author is detected once or twice in the practice of submitting manuscripts to two or more journals simultaneously, his work will very likely be excluded from all of them.

Having sent in your manuscript, do not at once begin to nag the editor to find out when it will appear. Prosperous and popular medical journals generally have in their editorial offices sufficient manuscripts to fill several numbers, and one of the functions of an editor is to decide in what order these articles shall appear. If you can not trust the editor's judgment, as to time of appearance and for any changes he may make in your manuscript, do not send

your article to his publication. In general it is safe to say that, the less work the editor has to do on a manuscript, the sooner it will be published, other things being equal. Reports of original investigation are generally given precedence over articles whose appeal is less immediate.

Proofs and Reprints

If you purpose calling the attention of your professional acquaintances to your work you should order all the reprints you think you will need in the first instance. After the type is "killed" it is much more expensive to have it set up again. When you receive the galley proof of your article for correction, a blank for ordering reprints, stating the size of your article and prices, generally accompanies it. The corrected proof and the order blank should be returned *within 48 hours*. If you do not desire reprints, *say so* on the blank. If you are correcting much proof it will pay you to learn the commoner proof-reader's marks.

Remember that it is bad form to do your *editing* on the proof sheets. This should be done on the manuscript before it goes to the editor. Extensive changes after the type is set are expensive and should never be necessary. Your proof reading ought not to require more than looking for errors in spelling, punctuation and figures.

If you intend to do any considerable amount of medical writing it will pay you to purchase one of the textbooks on the subject. Several excellent volumes of this sort are available at reasonable prices and your technic will be much improved by their perusal.

For the seldom contributor to medical literature I believe that the suggestions here made will be sufficient, if carefully followed, to enable him to produce manuscripts which will receive favorable consideration from any editor who receives them, when the same ideas, carelessly conceived and sloppily expressed—mentally and physically—would meet with prompt rejection.

The Control of Emotion in the Treatment of Tuberculosis

By GEORGE THOMAS PALMER, M.D., Springfield, Illinois
Medical Director of the Palmer Tuberculosis Sanatorium

IN practically all cases of pulmonary tuberculosis there is a definite symptom group which has been described as "neurasthenic". Phillipi is quoted as saying that 66 percent of tuberculous persons are distinctly neurasthenic, the prevalence and severity of psycho-neurotic disturbance increasing with the stage of the disease, so that 52 percent of early cases, 59 percent of moderately advanced, and 76.6 percent of advanced patients may be expected to be emotionally disturbed. While it is true that the neurasthenic element of tuberculosis is likely to increase as the disease progresses, these symptoms may appear very early. In fact, Fishberg says that hundreds of tuberculous patients are treated for neurasthenia for months before the true nature of their disease has been discovered.

The socalled neurasthenic symptoms frequently found in tuberculous disease are nervousness, restlessness, change in disposition, irritability, weakness, weariness or fatigability, chilliness, sweating or dryness of skin, rapid or irregular heart action, variability in appetite, nausea, anorexia and all forms of gastrointestinal disturbance. While a large number of persons remain emotionally normal throughout their illness, it is none the less true that there is a larger percentage of marked psycho-neuroses in tuberculosis than in other chronic diseases. These range from moderate excitability or depression to extreme alteration in disposition with unwarranted fears, apprehensions and at times definite mental aberration. The characteristic euphoria and optimism, frequently to be found in the terminal days of the disease, are as distinctly abnormal as the depression and restlessness of the early stages.

Whether tuberculosis can be the cause of actual mental disease has been the subject of considerable discussion. The fact that tuberculosis is unusually prevalent among the insane and the fact that the tuberculosis mortality is twice as high among the insane as among the normal population have little bearing on this question. The high mortality in institutions for mental diseases is probably due to the physical inferiority of mental patients and the abnormal hygienic conditions under which these unfortunates live. It appears that actual mental disease

is no more prevalent in large groups of tuberculous patients than among the same number of normal individuals. But the prevalence of the milder psycho-neuroses and of the symptom group vaguely described as neurasthenia is very large indeed.

Those who have followed the development of modern medicine must recognize the tendency to follow fads and fashions. The pendulum of medical opinion and medical belief swings rapidly and very widely. The medical junkheap is piled high with theories and doctrines once generally accepted, but now rejected as untenable. Just at the present time, we are possibly placing undue accent and unwarrented importance upon the effect of toxemia and the rather remote results of obscure infections. At any rate, the present fashion or custom is to attribute most, if not all, of the neurasthenic and psycho-neurotic evidences in tuberculosis to the poisonous products of the tubercle bacillus and its associated microorganisms.

There is no question that various focal infections may produce the symptoms of "neurasthenia", and these symptoms, together with some psycho-neurotic disorders, may be the result of intestinal absorption or any other general poisoning. The interesting question is, however, whether the theory of toxemia is sufficiently broad to cover the whole matter. Dubois points out that, with our highly scientific tendencies, there is grave danger that the chief difference between the physician and the veterinarian will become merely a difference in clientele. It is doubtless true that we are inclined to forget that, so far as we know, man is the only animal endowed with a mind. The influence of the mind over bodily function is just beginning to be studied and understood.

Mental Factors in Etiology

The prevalence of nervous and mental disturbances in the course of tuberculosis was recognized by the earlier writers. As late as the early nineties, Thomas J. Mays, in a textbook which attained considerable popularity, gave as the most important cause of tuberculosis "those (agencies) which vitiate the nervous system in general and the pulmonary nerve in particular". The part played by the tubercle bacillus, which had been established by Koch ten years before, was given as the causal factor third in importance. No less an authority than Clifford Albutt declared that a certain type of phthisis was found only among neurotic persons.

While we may perhaps ignore mental disease as a cause of tuberculosis and while we may question whether, living under normal conditions, insane individuals contribute more than their share to the ranks of the tuberculous, we must admit that a reasonable degree of mental poise and balance is very important in bringing about a cure. The patient who, through mental or intellectual inferiority, is incapable of giving intelligent cooperation has a very poor chance of recovery. On the other hand exceedingly intelligent patients, suffering from uncontrollable emotion, find that their progress toward cure is seriously impeded. In any event, intelligence and mental or emotional poise are of very great importance in the practical job of curing tuberculosis.

Aside from the theory of toxemia, which now holds the center of the stage, and the theory of mental and nervous deficiency entertained by the older writers, there is another factor in tuberculosis which has been the subject of some discussion, but which has not had the practical application to which it is entitled.

Crile and Pottenger and others have pointed out that exactly the same symptoms commonly attributed to toxemia may be produced by such emotions as fear, uncertainty, grief, worry and apprehension. From his experiments with lower animals, Crile has clearly shown that, in the presence of great fear, the organs remain practically dormant for the time being. The digestive function and the motility of stomach and intestines may come to a complete standstill when an animal is badly frightened. The every day effects of passing emotion on appetite, bowel movement, acceleration of pulse, sweating, weariness and the production of fatigue are so commonly observed as to require no argument whatever.

It will be borne in mind that the tuberculous patient experiences the utmost violence in his emotions and it will also be remembered that the vast majority of tuberculous patients are young and do not meet their emotional crises with the fortitude and philosophy with which hard knocks and experience usually endow maturer years. On account of the very morbid educational campaign employed in the past, in which the disease was pictured in most lurid and ghastly colors, the diagnosis of tuberculosis strikes terror to the heart of the average person.

In spite of the rather stereotyped cheerfulness now assumed by physicians, and even in spite of the more intelligent assurance we are justified in giving, it is probable that the majority of patients have, buried within them, a deep-rooted fear of death, while even the more sanguine are apprehensive of a life of complete or partial invalidism. The diagnosis, however long delayed, usually comes suddenly and the victim is perhaps hurried away to a sanatorium or put to bed without an opportunity of putting his affairs in order. Matters of a most personal and private nature escape from his control and are left to the attention of others. There are very few individuals whose lives are so open and so uneventful that their affairs can be dropped at a moment's warning without grave concern, apprehension and distress.

This sudden and tragic termination of the patient's normal life usually comes at a time when his affairs are unsettled; when he is financially insecure; when he is not established in business; when he is making his plans for marriage or when his little family is just embarking on the uncertain sea of life. He is naturally frightened, apprehensive, worried and bitterly disappointed and he looks into the future with the pessimism of youth. In addition to this, the patient is usually in a state of serious uncertainty as to how sick he is; as to his chances of ultimate recovery; as to how long he may be incapacitated and he is frequently gravely concerned as to the damage he has already done by infecting the members of his family. Uncertainty is always more demoralizing than any possible reality and the disturbing uncertainty in this case may be attributed to several things.

Diagnosis and Prognosis

The manifestations of tuberculosis and the theory of its cure are quite different from those of any other disease and, unfortunately, many physicians regard the disease with indifference and some even appear to take pride in their lack of interest in it. At best, an accurate prognosis in a case of tuberculosis at the time of original diagnosis is exceedingly difficult to make. Not only must the actual existence of the disease and the extent of involvement be considered, but there must be a reasonably accurate determination of the degree of activity and the probable resistance of the individual, as well as the environment and social position of the patient which have great influence upon recovery and upon the duration of the disease.

Lacking interest in or knowledge of tuberculous disease and experience with the reactions of the tuberculous patient, the physician is likely to announce his diagnosis either with unwarranted optimism or with equally unjustified pessimism, according to his own notions. There are still some physicians who regard a definite diagnosis of tuberculosis as equivalent to a death warrant, while there are others who talk of "weak lungs", or "a spot on the lung" with considerable flippancy without realizing that every case of pulmonary tuberculosis with clinical manifestation is a very grave matter though in no sense hopeless. The influence of these extremes of opinion on the part of the doctor, whether put in words or not, makes a strong impression on the mind of the patient and if the patient seeks the advice of several physicians, as he is properly inclined to do, he is bewildered by the apparent conflict of opinion and advice. He soon learns, perhaps, that the judgment of one physician has been tempered with too much optimism in order to avoid undue alarm; while, on the other hand, the opinion of another doctor has been exceedingly pessimistic in the hope of overcoming the patient's reluctance and frightening him into accepting the proper means of cure. Whatever the motive, the patient is left in a condition of pitiful uncertainty in a matter which is of vital importance to him.

Briefly, the tuberculous patient usually undertakes his fight against a very serious disease in a condition of emotional disturbance which may be expected to lower his resistance and impair his fighting ability. Recognizing that this serious emotional disturbance may produce exactly the same symptoms as the toxins of disease, it is quite impossible for the physician, in undertaking the care of his patient, to determine which of the disease manifestations are toxic and which are emotional in origin. It is quite obvious, however, that the addition of emotional disturbance in a case in which the patient is struggling with physical disease to the limit of his endurance will result in failure where recovery might otherwise have been expected. On this account the modern treatment of tuberculosis includes the employment of all of those methods which have been found successful in allaying the progress of the disease and stopping the production of toxins and, at the same time, the employment of such meas-

ures as may be necessary to restore the patient to emotional poise. It is quite reasonable to assume that failure to appreciate the importance of both of these factors has led to countless failures in the past. Experience has shown that far more attention must be given to the hearts and souls of tuberculous patients than to their purely pathologic processes. There is no question but that the patient with moderately advanced disease and considerable activity, but with good temperamental makeup, has a far better chance of recovery than the patient with earlier and less active disease but with unstable emotional poise.

Management of Patients

Without discussion of the general treatment of tuberculosis which is now becoming reasonably standardized, it must be emphasized that an important part of the duty of the physician is to allay and control the emotional instability of the patient and this must be undertaken in an attitude of absolute honesty and frankness and by a clear mutual understanding at the time of diagnosis. In acquiring a lasting influence over the patient, it is more important that the physician shall convey an impression of absolute honesty than that of superior knowledge and skill. The patient should be made to understand that the means of diagnosis are relatively crude, and that definite prognosis is quite impossible and depends on numerous factors which time alone can determine. He should be advised that the judgment of the doctor is not infallible, but that his interest and watchfulness are constant and genuine.

It may be safely assumed that the ideas and conceptions of the average patient in regard to tuberculosis are 90 percent incorrect and this is true regardless of the general knowledge and intelligence of the individual. The patient should not be dismissed after the diagnosis is made until ample time has been taken to explain to him the almost universal prevalence of tuberculous infection; the modern theories of disease development through pre-existent infection and lowered resistance; the accepted doctrine of cure in which rest takes a paramount place; the exaggeration of the idea of contagion which contributes so much to the patient's sense of isolation and the fallacy or extreme limitation of all exploited "cures" including serums, vaccines, climate and all other socalled specific measures. A clear understanding at the outset, tempered with hopefulness, the basis of which is made clear to the patient, but with the recognition that the future course must be guided by constant observation, training, discipline and education and yet is full of pitfalls, will give greater promise of success than any remedy of which we now have knowledge.

The properly conducted sanatorium is more of an educational institution than it is a hospital and, if it is possible, the patient should have the advantages of such an institution, if only for a few months, as a means of preparation for his home care. If the patient is to be cared for in his own home, however, the physician must recognize that his personal presence and influence are of a great deal more value than any drug or medicine he may administer and the patient should be impressed with this fact so that he will insist upon rather than question the frequent presence of the doctor for purpose of observation and inspection whether drugs and medicines are administered or not. The majority of patients cared for in their own homes are found to be taking a great deal more medicine than is good for them and this is doubtless due to the fact that we have not trained our patients to appreciate and pay for the advice and counsel which are so important in such a disease as tuberculosis.

Having made the diagnosis and prognosis so as to be as clearly understood as possible and having instituted the established routine of treatment, the physician should be constantly alert for the detection of neurasthenic symptoms apparently out of proportion to the activity of the disease process. By the establishment of a thoroughly frank and sympathetic relationship, the physician is often able to obtain the entire confidence of the patient and in almost every instance where the patient is not doing well there will be found some regret of past action; some fear, apprehension, or uncertainty in regard to the future; some worry, grief or unhappiness in the personal life of the individual and having no connection or only remote connection with the present illness.

In a large number of instances, the fears and apprehensions relative to his disease may be removed by perfect candor on the part of the doctor who should not hesitate to bring in convincing proof of his assertions. Depression due to regret for past actions may often be eliminated by squaring the patient's moral or religious prejudices with sound experience and sense or by developing in the individual a normal philosophy in which bygones are permitted to be bygones.

Perhaps the most fertile field in the management of the tuberculous patient, which is usually ignored by the physician, is the adjustment of the causes of worry, anxiety and unhappiness due to conditions entirely outside the patient's illness and frequently remedied and removed by very simple means. Instances are numerous in which the patient is found to be steadily losing ground and in which the obtaining of his confidence and the removal of sources of unhappiness have resulted in immediate and pronounced improvement.

Frequently the mere discussion of the patient's problems with a physician who is intelligently sympathetic and understanding, may serve to restore order in the patient's mental processes and to dissipate his depression without any action whatever having to be taken. It must be borne in mind that tuberculous patients are usually self-centered and are inclined to become exceedingly sorry for themselves and, at the risk of being regarded as coming very close to the border of maudlin sentiment, I would say that the conviction that somebody actually cares has an enormous therapeutic value.

The following brief case memoranda, selected from the records of a tuberculosis sanatorium of eighty-five beds during a period of less than one year, are at least suggestive of the definite benefit which may accrue to the tuberculous patient if the practical significance of his disturbed emotions is taken sufficiently into consideration.

Case Reports

Case 1.—Intelligent female, age 36, married; moderately advanced case, low grade, active. Appeared calm and well poised when she arrived, accompanied by her husband. On his leaving, developed marked depression which persisted, with nervousness, insomnia, loss of appetite, loss of weight, rapid pulse, gradually increasing temperature and extreme weakness. A confidential talk with physician developed the fact that the patient's mother and two sisters had died of tuberculosis; that, at the time of death of the second sister, a family physician, in whom patient had the utmost confidence, had stated that no patient ever recovered when tuberculosis had actually developed. Satisfied as to the diagnosis in her own case, patient was convinced that she would never return to her home alive. She had maintained her poise until her husband left only by the greatest effort.

The physician explained the fallacy of this pessimistic attitutde and proved his point by introducing to the patient several persons who have made complete recoveries. It required several weeks to entirely remove this deep-rooted fear of death, but when it was accomplished the clinical picture promptly improved and patient made a satisfactory recovery.

Case 2.—Intelligent female, age 42, married. Early, active tuberculosis with considerable depression. Previous diagnosis of neurasthenia. In spite of general physical improvement, patient remained depressed and nervous, with poor appetite, insomnia, digestive disturbance, accelerated pulse, a sense of exhaustion and an attitude of hopelessness in regard to her recovery. On confidential conference, patient stated that she had been told by a previous physician that she suffered from "internal goiter" which was responsible for her nervousness and rapid pulse and which would yield only to radical operation. Patient had failed to menstruate for two months previous and recalled the statement of her former physician that menopause is a time of crisis in tuberculous patients, at which time the individual improves rapidly or goes steadily down to fatal termination.

Patient was assured that the climacteric is purely a physiologic function and that the tendency of tuberculosis is to become quiescent with advancing years and was also satisfied, through consultation with a well known internist, that there was no evidence of thyroid disease. The removal of these fears brought about immediate improvement and continued sympathetic observation led to satisfactory recovery.

Case 3.—Male, age 35, married, investment banker. Early tuberculosis, moderate activity. Patient was exceedingly restless, with symptoms entirely out of proportion to physical findings—poor appetite, insomnia, digestive disturbance, accelerated pulse, extreme prostration, sweating. After several confidential conversations patient disclosed that his wife, to whom he was devoted, was exceedingly extravagant, with social ambitions and that he had lived beyond his income. Contrary to the deep-rooted policies of his company, he had engaged in hazardous speculation and notes covering his losses were about due. He greatly feared knowledge of his speculations reaching his business associates.

A long distance telephone call to his home physician led to his receiving assurances from his bankers that his notes would be held until his recovery and also led to a reorganization of his domestic affairs so that expenses were materially reduced. This readjustment resulted in prompt improvement and in ultimate satisfactory convalescence.

Case 4.—Female, age 35, single. Early, active tuberculosis. Patient was so obviously distressed and restless that there was some thought of referring her to a sanitarium for nervous and mental diseases. Complete loss of appetite, continuous weeping, insomnia, nausea, obstinate constipation, steady loss of weight, accelerated pulse, increasing temperature. On a third confidential consultation and with great reluctance on the part of the patient, it was learned that she was an only child, her parents being almost forty at the time of

her birth. While surrounded by luxury, she was never permitted the ordinary diversions of other girls. She devoted herself to the care of her parents, living in a rigidly devout and puritanical atmosphere. She was never permitted to go away to school nor to have social contact with young men. It was found that she had missed three menstrual periods and that recent contact with a young male cousin gave ground for apprehension. She was satisfied that she was pregnant and overcome by the disgrace of her condition. Her tuberculous condition had become rapidly activated during the past two or three months.

After physical examination, patient was assured that there was no evidence of pregnancy and was also advised that amenorrhea is one of the common symptoms of early tuberculosis. Quite as important, she was impressed that sex indiscretions were not entirely unheard of among very representative people and her self-respect was restored. Further, she was assured that, in the remote possibility that she was pregnant, her active tuberculosis would justify interruption and that for the time being her secrets were entirely safe with her physician. The immediate result in the cessation of symptoms was striking and convalescence was ultimately attained.

Case 5.—Female, age 29, married, graduate nurse. Very early tuberculosis with slight activity. Patient nervous, variable appetitie, occasional insomnia, frequent periods of marked depression, general change in disposition, digestive disturbance, accelerated pulse, steady loss of weight. Patient was susceptible to encouragement and could be temporarily restored to her normal, sunny disposition; but it was impossible for several months to obtain her full confidence or to induce her to disclose her real fears. Finally, with the assistance of her family physician and a sympathetic and intelligent head nurse, patient was induced to admit that she had never been convinced that she was tuberculous and that she was certain that, in her confinement in a sanatorium, she would become infected.

A careful review of the patient's case record; a physical examination in which every detail was explained to her; a study of the x-ray plates in the presence of the patient and a consultation by several physicians experienced in tuberculosis finally removed all doubt and satisfied the patient that she was tuberculous, that she was in no danger of added infection and that her condition was entirely curable. During the following week, patient gained two pounds in weight, nervousness disappeared, she slept well and practically all neurasthenic symptoms disappeared.

Case 6.—Female, age 34, married, unusually intelligent. Moderately advanced pulmonary tuberculosis. Did well during first few months of sanatorium care and then became depressed with poor appetite, insomnia, digestive disturbance and loss of weight and with marked homesickness. After several confidential talks which were fruitless, patient stated that she greatly feared the result of her prolonged separation from her husband, who was an exceptionally intellectual man of unimpeachable conduct. She explained that he was well cared for and that there was no question as to his steadfast devotion; but she said that she had always read and studied constantly to keep pace with him intellectually and that she feared, from things he had said, that her prolonged illness was causing her to fall behind his mental progress.

A talk with the husband caused him to discuss his work and studies with the patient on his frequent visits and caused him to send her the manuscripts of his articles for criticism before publication. The result of this change in attitude was immediate improvement on the part of the patient.

Conclusions

1.—Pulmonary tuberculosis is frequently marked by socalled neurasthenia and emotional instability.

2.—The neurasthenic phases of tuberculosis may be due to toxemia or to the emotional strain peculiar to the disease or to the disturbed personal affairs of the patient. Emotional strain and toxemia are productive of much the same symptoms.

3.—The removal of either causal factor is of importance in the treatment of the disease. Toxemia is reduced by modern rest treatment. Emotional unrest may be decreased or removed by intelligent psychologic treatment.

4.—The removal of the causes of emotional unrest will often bring about improvement when all other treatment is unavailing.

Hemorrhagic Retinitis*

By V. K. HART, M.D., Statesville, N. C.

IT has been customary to look upon retinal hemorrhages as suggesting a bad prognosis for the patient's health and life. Particularly is this true when such changes occur in connection with a glomerular nephritis or arteriosclerotic nephritis. In such cases a true retinitis usually accompanies the hemorrhages, and the phrase, hemorrhagic retinitis, should not be used unless inflammatory changes are coincident with the hemorrhages'. The prognosis of these conditions is indeed grave.

There are, however, cases of hemorrhagic retinitis which occur without demonstrable kidney lesion or generalized vascular disease; at any rate certainly not far advanced. Sometimes the most painstaking study will fail to reveal the causative factor or factors. Two cases of this type are presented.

Case 1.—Social History: Male, colored; age twenty-five; single; student.

Failing vision in both eyes.

Family History: Questioned particularly as to family history of tuberculosis, but none occured in immediate relatives.

Post Medical History: Patient has had smallpox, measles, chickenpox, whooping cough and scarlet fever. Admits no other serious illness, nor any operation. Denies any venereal infection.

History of Present Illness: About six months ago, the patient noticed a flickering before the left eye. The onset was sudden. Loss of vision not complete at first but vision was lost in a week's time. He had been accustomed to drinking and had taken some liquor previous to the attack. About one week ago, he suddenly lost the vision in his right eye. He admits having taken one drink of whisky.

Physical Examination: *Eyes;* vision, O.D. 20/100; O.S., light perception only; pupils equal, react sluggishly to light and accommodation; lids negative; cornea clear. After homatropin a retinoscopy showed a practically emmetropic right eye. There was no shadow in left. The ophthalmoscope showed extensive changes in the vitreous of the left eye, probably the result of hemorrhages into that structures, and the fundus could not be seen at this time. The right vitreous was clear. There were extensive changes in the right retinal blood vessels, involving the veins predominantly. These were tortuous and showed areas of contraction and dilatation, the latter more in the periphery of the retina. There were mutiple points of hemorrhages and exudate involving all portions of the retina, with much scar tissue formation. There was marked periphlebitis. In places the veins were merely white cords. There was some abnormal streaking of the arteries and periarteritis.

Nose and Ears: Essentially negative.

Throat: Large. diseased tonsils.

Chest: Fluoroscopic examination as well as physical examination, negative.

Extremities: Reflexes present and normal. No Romberg sign.

Blood Pressure: 110/75.

Laboratory Examination: Complete blood count showed nothing of value. Blood Wassermann test negative. Provocative neoarsphenamine given and blood Wassermann taken again, three days later. It was still negative. Spinal fluid cell count six cells per cubic millimeter; negative for globulin; Wassermann test negative (sent to two laboratories). Blood sugar, 44 mg. per 100 cc.; blood urea nitrogen 20 mg. per 100 cc.

The *tuberculin reaction* was suggestive. There was no focal reaction at any time. There was a slight constitutional reaction following the administration of 1/10 mg., and such a strong reaction after 2 mg. (temperature 102°) that the test was discontinued.

Controls done on student nurses are briefly mentioned. One reacted sharply after a dosage of 1 mg., with an afternoon temperature of 101°. The second nurse did not react even to a dose of 5 mg. A third nurse reacted sharply to 0.5 mg. All were in average health with no family history of tuberculosis. Two were very robust.

The local and constitutional reactions are of no diagnostic value. Any focal change (in the eye itself) is of the utmost importance. Such a change was not observed (fresh hemorrhage). However, in this case a new area of bleeding could easily have been overlooked. The left retina could not be seen. Involvement of the right retina was so extensive that a small area of new hemorrhage might easily have escaped notice.

The above records show the uncertainty of the tuberculin test from a diagnostic standpoint. Nevertheless, it is pointed out that the patient under discussion is the only one who reacted to a dose as small as 1/10 mg.

Tentative diagnosis: Hemorrhagic retinitis of undetermined origin.

Case 2.—Social History: Male, age fifty-eight years; married; farmer.

Loss of vision in right eye.

Family History: Negative.

Past Medical History: Nothing of value.

History of Present Illness: For some time past has noticed that vision in right eye was not so good as in left eye. Not of long duration. Previously saw well with both eyes.

Physical Examination: *Eyes*: Pupils equal; react sligishly to light and accommodation; lids negative; cornea clear; ten-

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sion normal; retinoscopy, after instillation 4 percent cocaine, showed a small amount of hyperopic astigmatism in each eye; media were clear. *Ophthalmoscopy* showed small circumscribed areas of exudate in right macular area; several hemorrhagic areas on both nasal and temporal sides of nerve, right; and only one small hemorrhagic area above nerve, left. There was no excessive vasculitis. *Vision*: O.D., S + 0.50 (giving 20/65 vision; O.S., S + 0.25, cyl. + 0.25 at 90° (giving 20/20 minus one vision).

Nose and Ears: No gross pathology.

Throat: small atrophic tonsils. No adenopathy. Has some neglected teeth.

Chest and Abdomen: Negative.

Extremities: Reflexes present and normal.

Blood Pressure: 165/90.

Laboratory: Phenolsulphonephthalein; first hour no specimen; second hour 65 percent. Creatinin, 1.5 mg. per 100 cc.: Blood urea nitrogen, 21 mg. per 100 cc.; Urine negative.

Tentative Diagnosis: Hemorrhagic retinitis, mild type, of undetermined origin.

Discussion

In the first case, the etiology was extremely uncertain. The most common cause of extensive vascular disease in a young individual is syphilis. Nevertheless, the most careful laboratory work showed no evidence of that disease. There were no stigmata of either acquired or congenital lues. The writer, in a previous paper, has shown the fallacy of condemning a patient to a diagnosis of syphilis just because he is black[1].

A disease also common in the colored race is tuberculosis. There was no evidence of that disease in the chest of the patient, though, of course, it can and does occur in the eye without demonstrable chest lesions. Various parts may be attacked. However, interest in this case is in the retina. Tubercles of the choroid were absent, but there is a form of retinal tuberculosis with white infiltrations and hemorrhage. Jackson and Finnoff have pointed out that the former usually occur in front of the retinal vessels and this was not consistently true in the case under discussion. However, the vascular disease was widespread.

Such widespread involvement could occur with thrombosis of the central retinal vein and one of the branches of the central retinal artery. It seems unlikely though that both eyes should be involved by such a lesion within such a short period of each other.

The extensive changes in the left vitreous strongly suggest a tuberculous focus. This belief is borne out by the definitely positive tuberculin reaction (constitutional). Of course, as a therapeutic test, old tuberculin has been greatly discounted by many. It is estimated that the large majority of people have or have had some tuberculous disease and, consequently, have some immune bodies, particularly following recovery. Such people will give a positive reaction. However, it seems logical that patients with an active tuberculosis would react more strongly. Often, too, following old tuberculin, the eye symptoms are aggravated if the lesions are tuberculous (focal reaction). Such did not appear to occur in this case, but, as previously emphasized, a focal reaction might easily have been overlooked.

Nevertheless, the reaction was strongly positive constitutionally, as was shown by comparison with controls run at the same time on student nurses.

A toxemia from bad liquor is altogether possible in the first case. Still, why was there a six months' interval before the second eye was attacked?

The explanation in this case is either a toxemia of undetermined origin; a metastatic infection of the retina (improbable); or a retinal tuberculosis (most probable in view of findings).

In the way of treatment, the patient's tonsils were first removed. He was then put on a course of tuberculin, T.R. There was very little improvement from this therapy.

The second case was a much older patient, and the involvement was not in any way so extensive. The only explanation found here was some bad teeth.

How would such a focus operate? By deposition in the vessels or retina of small, infected emboli. Certainly there was not enough demonstrable kidney or blood vessel change to explain the pathology.

The only treatment instituted was extraction of his teeth.

There has been no progress in the retinal lesions in the last five months.

Such cases as these defy the best methods of diagnosis. They show also the necessity for thorough investigation before giving a prognosis—that is, a prognosis as to life. That for vision is poor if the macular area is involved. The outlook for life is good if no high grade generalized arteriosclerosis exists, with or without concomitant kidney changes.

Summary

1.—Hemorrhagic retinitis without extensive arteriosclerosis or renal changes does occur.

2.—The tuberculin test, in the writer's hands, has been extremely unreliable. Nevertheless, the first case was possibly tuberculous, and this should be kept in mind.

3.—In some cases metastatic infection is probably a factor.

4.—Thorough study of every case should be made before a definite prognosis is given.

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Bacillus Abortus Infection in a Human Being

By W. D. LANE, M.D., Bad Axe, Michigan

I DESIRE to report the history of a case which our state laboratory diagnoses as Bacillus Abortus infection. This I believe to be closely allied to Malta fever, the two causative organisms being so closely connected that the only means of differentiation is an agglutination test. Also this condition is said to be not uncommon in human beings in the Southwest and I now believe it to be rather frequent with us, for though I cannot boast of fifty years' experience, I have seen quite a few cases of "influenza", when that disease was not in epidemic form, whose symptoms closely resembled this case. None of the cases mentioned were ever subjected to blood culture. Then, too, by reading the chapter on Malta fever in Tice, one can see that there is a marked resemblence to this disease, though certain symptoms were absent and there was a marked difference in the duration.

Case: Mr. L.; age 62; farmer.

General examination previous to onset showed what one would expect to find in a man of his occupation and age, except that he had numerous badly decayed teeth, with a severe case of pyorrhea. He had been advised to have all of his teeth extracted.

He has been doing considerable butchering the last few years, working especially among hogs. Does not remember that any of them were obviously diseased. I mention this because of the fact that the other six cases of B. Abortus infection in this country were all contracted from hogs.*

On October 2 he complained of feeling tired and did not care for food. On this day he worked, as on the day previous, in a cold rain, his clothing becoming thoroughly soaked.

October 3, at 8 A.M., he began having slight chills or rather a chilly feeling. At noon he went to bed because of a severe chill lasting from ten to twenty minutes, after which he perspired profusely. I first saw him at 4 P.M. During this interval (from noon until 4 o'clock) he had had a chill every hour. Some were more severe than others, but all of them caused his teeth to chatter and the bed to shake. At the time of my first visit his temperature was 103.6°F.; pulse 96 (full); respiration 20; a slight cough; moist skin; no pain or distress anywhere; cheeks slightly flushed; tongue clean; no evidence of any injury.

The next morning his temperature was 100°F.; pulse 90; respiration 20. That afternoon his temperature rose to 103.4°F.; pulse 96; respiration 20. There were no more chills until noon of that day.

After continuing in this manner for 4 days, he developed a sharp pain in his left hip, radiating across the sacroiliac joint; also marked insomnia and a mild delirium at times; the latter always at about 6 P.M.

The fifth day his temperature broke and was normal for 5 days, when it again rose to 99° in the mornings and 102° in the evenings. The entire dorsum of the tongue, except the extreme edge, became thickly coated. This coating was as white as milk. The lips cracked and the skin became slightly icteric. No chills, but profuse perspiration. Pulse never above 94. Slight cough, of irritative type, continued; spleen slightly tender and palpable. Blood count taken at this time showed 8,000 white cells No differential count was made.

The patient was very nervous and irrational in the evening, and suffering intensely from pain in hips and lumbar region. All the lumbar vertebrae were very tender; also left hip joint. No swelling nor inflammation was present.

On the 13th day the temperature dropped to 97.6°; pulse 80; respiration 18. This subnormal temperature; coated tongue; severe lumbar and hip pain; insomnia; and profuse perspiration, brought on by the least exertion, continued with but slight variation until October 27, when his temperature both morning and evening was normal; pulse normal; tongue slightly coated; appetite poor and some pain in lumbar region. At this time he was discharged, except for an occasional visit.

On October 28 he got out of bed, just twenty-five days from the time he was first taken ill.

November 11 he had another chill with rise of temerature to 102.4°F.; pulse 98; respiration 20; leucocyte count 7,600. November 13, temperature 97°F.; A.M. and P.M.; pulse 88; respiration 18. No other

*Several cases, overlooked by the author, have resulted from drinking infected milk.—Ed.

symptoms except pain radiating down left leg and continuing severe lumbar pain. The spleen at this time is barely palpable. Tongue still shows some white, milky coating.

Total duration to date 39 days.

You will notice, probably, that one might make a diagnosis of typhoid fever or protracted influenza: The former from the symptoms given, and also a marked constipation which I neglected to state was present throughout the course of his illness.

I am sure no other case of this kind has ever been reported from our section of the country; yet B. Abortus infection is not at all infrequent in cattle. Mr. L. had two cattle abort one year ago, within a few weeks of each other; he did not know why they did so, except they might have been injured without his knowledge.

After this experience, I am sure that some of our protracted cases of "influenza", resembling this case, are B. Abortus infection.

A specimen of blood serum, taken on October 13 and examined at the laboratory of the Michigan Department of Health, gave a positive agglutination for B. Abortus in a dilution of 1:80. On October 17 and 19 the Widal test and blood cultures for typhoid bacilli were reported negative by the same laboratory.

It seems that Malta fever has occurred in Texas and that Micrococcus Melitensis and B. Abortus cause a similar chain of symptoms, yet they differ in their agglutination properties.** Also I find that this disease due to B. Abortus has occurred or been reported from the following states: one in Virginia; two in Maryland; one in Connecticut; one in New York; and one in South Dakota. The carrying animal in M. Melitensis infection is the goat; while for B. Abortus it is either hogs or cattle.

**There is now a feeling in various quarters that even the agglutination reactions are identical.—Ed.

Large Vesico-Vaginal Fistula; Cloaca Operation

(A Case Report)

By R. E. HOFFMAN, B.S., M.D., Meshed, Persia
The American Presbyterian Hospital

NINE years ago a Persian woman only 4 feet 5 inches tall came to me complaining of total incontinence of urine. She stated that five years before, at the age of 13, she had given birth to a well-formed, dead fetus, after a terrible labor lasting 12 days, attended only by ignorant midwives. Divorced, and practically cast off by all her relatives because of her repulsive condition, in desperation she defied custom by submitting to examination and treatment by a male physician. There was an extremely large vesico-vaginal fistula; only the external half-inch of urethra remained.

In the absence of the urethral sphincter, it would have been useless to repair the fistula. The rectum had not been injured, the anal sphincter was intact and the perineum had not been badly torn. I had not the facilities for attempting ureteral transplantation, had never seen it done, and had only a vague idea of its technic. I therefore decided that her best chance lay in making a cloaca.

Under chloroform, the only anesthetic available at that time, I removed the remnant of urethra, denuded the circumference of the vaginal orifice, and made a complete closure; at the same time incising the recto-vaginal septum to make a cloacal opening for the flow of urine into the rectum.

A perineal fistula formed, and had to be operated upon again a few weeks later; the recto-vaginal opening proved to be too small, and so I enlarged it. The new plumbing finally worked, however, and the patient was able to keep clean, and retain her urine for two or three hours.

She visited the dispensary occasionally, complaining at different times of malaria, constipation, burning in the rectum and indigestion.

Her complaints gradually increased until two years ago; i.e., seven years after the cloaca operation, when she was again admitted to the hospital. The cloacal opening was large enough to admit two fingers; the urine contained no albumin or pus. We classified her troubles as follows: (1)—Attacks of indigestion, with gas eructation and vomiting and, at times, a sense of suffocation and impending death. Between attacks the digestion was good and the tongue strikingly clean, so that the attacks were

evidently reflex; (2)—She had burning of the rectum and anus, at the menstrual periods only, which had continued to be regular, with a moderate flow; and (3)—There was soreness of a nodule in the vulva, from which came a trickle of urine.

On December 10, 1924, under ether anesthesia, we opened the abdomen. There was a left hydro-salpinx adherent to the ovary; the latter was cystic and about 4 cm. in diameter; the right tube and ovary were free and apparently healthy. The entire digestive tract seemed to be normal, except for two long, fibrous bands between gallbladder and omentum; the gallbladder was thin-walled, emptied rather slowly, and no stones were palpable.

We removed the left tube and ovary, uterus (supracervically), and appendix, and divided the fibrous bands from the gallbladder.

The patient made a good recovery, and two weeks later we removed a urinary calculus, 1 cm. in diameter, from the perineal nodule, and denuded and closed the fistula, under novocaine (procaine).

The little patient now retains her urine comfortably for three to four hours. Since the cessation of the menses there is very little irritation of the rectum. Urine, secured when there is no fecal matter in the rectum, is slightly cloudy, acid in reaction, and free from albumin. There have been a few digestive attacks, not so severe as before—and due to gormandizing at weddings and feasts.

Upon digital examination, the finger passes easily through the anus and cloacal opening into the vagina; the perineal closure is felt to be irregular, but there are no specially tender spots; the vagina is somewhat dilated, forming the chief reservoir for urine; the cervix is palpable and fairly movable. Forward, the anterior bladder wall is encountered, and the region of the trigone can be reached by turning the hand and flexing the finger upward; the bladder is tender, but palpation is endured. The bladder wall is not palpably thickened or irregular. I have not found any feces in vagina or bladder at examination.

Observations

1.—Under the circumstances, nine years ago (1917), I believe the treatment followed was justifiable; but since the clearing up of the question of ureteral transplantation, by Coffey[1], Charles J. Mayo[2], and others, this would seem to be the logical treatment of vesico-vaginal fistula when the sphincter has been destroyed.

2.—An unexpected difficulty was the irritation of the rectum by the menstrual fluid.

3.—After nine years of cloacal life, and, in all, fourteen years with the bladder open to infection, there is no sign of any ascending infection of the kidney, and very little if any cystitis. This would have seemed remarkable before the recent work demonstrating the intra-mural course and valve action of the ureteral outlet.

Meshed, Persia, October 9, 1926.

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Surgical Seminar

Conducted by GUSTAVUS M. BLECH, M.D.

[Note: The Seminar is devoted entirely to the practical interests of surgeons. Problems and their discussions are solicited. Contributors must give their names, but whenever desired these will not be published. Questions for this department should not exceed fifty words. Address all communications for the Seminar to Dr. G. M. Blech, 108 North State Street, Chicago.]

Surgical Diagnostics (Continued)

Sounding of the stomach is not undertaken for the same purpose as that described for the esophagus, but principally to determine the character of functional disturbances. For this purpose we must resort to chemistry and that means that we must first obtain the stomach contents. For this procedure we need a standard stomach tube, and I advise that none be used except it be provided with a bulb to insure control over the air in the tube.

The reason why the usual long rubber tube provided only with a funnel is not recommended for diagnostic work is that quite often one is compelled to use a little water to cause the stomach contents to enter and come out through the tube. While the resulting thinning does not destroy the tests, allowance must be made, and all that can be avoided by using the bulb. We should learn to get along with the simplest posssible measures to obtain exact and uniform results.

The stomach tube is introduced in the manner described in the preceding section. Quiet breathing will facilitate the procedure, which is rendered rather difficult when the patient is in a state of excitement. The tube proper should be "lubricated" with plain warm water only, though one can get along without this aid. If, after the introduction of the tube, no contents escapes when the distal part of the tube has been lowered below the level of the stomach, compression of the bulb will force the semiliquid contents through the tube into the clean dish held ready to receive the specimen.

This simple procedure tells us without further examination whether or not the stomach contents have undergone abnormal fermentation and whether or not tissue particles or blood are present. Depending on the test breakfast used and the time after its ingestion, one can also tell at once whether the stomach is atonic or not, but of this we shall speak more in detail under the proper heading.

A word about the indications and contraindications for sounding the stomach. As a general proposition the omission of the use of the stomach tube in all affections with stomach symptoms is, to say the least, reprehensible neglect. Who has not seen cases which have been treated for all sorts of "dyspepsias", merely taking the patients' word for their symptoms, when a change of medical attendants brought to light that a case of carcinoma had been neglected for months! Only when the patient gives a history pointing to a fresh ulcer, and particularly when the physician has an opportunity to see the vomited matter, is the use of the stomach tube contraindicated, as a serious hemorrhage is likely to be the result.

The practice of "inflating" the stomach still frequently performed to determine size and anomalies of position should be discontinued as a more or less dangerous one in all forms of ulcer, chronic as well as acute, and inflammatory diseases, for as no one can always rule out the presence of chronic ulcer of the stomach, we have no right to make any diagnostic test which may prove dangerous. We have other harmless and even more exact methods to afford us the desired information.

Catheterization to determine the presence or absence of stricture of the urethra is a simple procedure, which requires no description here, except to sound a warning. The use of any urethral sound, be it a rigid, metallic sound or catheter or a soft or semirigid rubber instrument, is to be carried out only under the strictest aseptic precautions. As this warning is given in every textbook, and as it is NOT heeded by busy practitioners to the extent it should be, I may be permitted to explain the reason for this urgent demand, solely in the interest of the patient's health, and to guard the practitioner against harsh but justified criticism.

Even the normal urinary bladder is very susceptible to infection. We know that the bladder is almost never completely emptied and that there is retention of urine. The urine left in the bladder is a veritable culture medium and I know from actual ex-

perience that many a case of ascending suppurative pyelitis or pyelonephrosis saw its beginning in the office of a physician, from the use of unsterilized instruments.

Asepsis at this advanced period of surgery should require no description and it is not intended to teach here the technic of aseptic catheterization or, if one prefer the term, sounding of the urethra. But I shall narrate an experience which requires no further comment. Some time since a medical friend asked me to witness his way of sounding a urethra for stricture. The instrument was taken from the sterilizer with his hand, which had previously been washed. The penis and meatus urinarius had been treated with some antiseptic solution. Now my friend forced a lubricant from a collapsible tube onto the instrument and introduced the sound. When we were alone I asked my colleague whether he believed the lubricant to be sterile, and he had to admit that he did not know. I suggested sterilized glycerine in a sterile container as the best and safest lubricant.

A word with reference to the proper selection of sounds or catheters. Each practitioner has his own preferences. The soft rubber catheters stand boiling but are too soft for exploratory or palpating purposes. While they produce the least trauma to the urethra they give very little information. Often their introduction is difficult because they are not rigid enough to overcome even a comparatively insignificant obstruction and resort must be had to a stiff wire put into the catheter to afford rigidity. This, in my opinion, in itself renders the soft rubber catheter unsatisfactory as a diagnostic instrument.

The semi-rigid catheters are supposed to be a compromise between the defects of the soft catheter and the objections to the metallic instrument. It is believed that instruments like the Mercier have the advantage of passing the urethra in the face of obstruction by an enlarged prostate and of emptying the bladder completely when this cannot be accomplished with the soft catheter. The only objection to this class of instrument is that the material does not resist boiling and other methods of sterilization are not satisfactory.

The danger of metallic sounds is to be sought in the production of socalled false channels. But my impression is that a properly selected instrument, well lubricated and introduced gently, directed merely to follow the anatomic course of the male urethra, will never produce a false channel. When a stricture of the urethra is so narrow or tortuous that the sound cannot possibly adapt itself to its course, it should not be used at all and resort must be had to filiform bougies. Once a filiform bougie has entered the bladder, a tunneled catheter can be introduced over it, care being taken to hold the bougie firmly to prevent its being forced into the bladder beyond reach, as presented in another section of the Seminar.

Catheterization of the ureters requires thorough familiarity with cystoscopy. It is too specialistic a procedure to be discussed as regards indications and technic, though we shall briefly refer to it later on.

Sounding of the rectum is to be done by the gloved and lubricated finger. There should be a law passed fining every dealer of surgical instruments for having in his possession for sale rectal bougies!

Another method of examination which is of decided diagnostic value in a number of surgical affections is—*aspiration*. The principle of a good instrument requires a suitable hypodermic needle of appropriate length and caliber and a reliable glass syringe with a ground-in piston. The socalled record syringes, made of glass with a metal piston, are probably the best. The technic of aspiration is simplicity itself, since asepsis is easier here than in connection with catheterization, but its use should nevertheless be reduced to the minimum. Diagnostic skill can be graded proportionately to the infrequency of aspiration employed.

What can aspiration show? That a certain locality or organ contains some liquid or semiliquid, like pus. We can very often establish that fact without the needle and syringe. The character of the liquid, too, becomes a problem easily solved without actually placing a drop or two on a slide.

Aspiration of abscesses in serous cavities is contraindicated except in the midst of an operation when every precaution has been taken to prevent "leakage".

Aspiration, though not usually designated as such, finds extensive use as a means of *withdrawing spinal fluid*. For this we need, in adults, a special needle, while in children any good sized hypodermic needle will suffice.

Aspiration of the brain is practiced too little in the United States as a means of arriving at a diagnosis before operation. It must be remembered that while modern neurology has placed the diagnosis of central lesions on an almost mathematically

exact basis, so much so that no surgeon will undertake a brain operation without the expert advice of a neurologist, there are many lesions such as limited hemorrhages, tumors, cysts and abscesses which produce no focal symptoms and in these aspiration or brain puncture is the only diagnostic means to establish the location and character of a suspected lesion.

For this procedure, which can be carried out under local analgesia, we require a special fine drill, driven by a motor. After exposure of the skull by a suitable incision the skull is perforated vertically; the drill is withdrawn and a suitable aspirating needle with a stylet is introduced into the brain substance to the desired depth; the stylet is withdrawn, a reliable syringe placed on the needle and aspiration begun. If this prove unsuccessful, that is to say, if the needle has not reached the affected site, the syringe is withdrawn, the stylet is carefully reintroduced and the needle is pushed deeper or to the side as the case may be, repeating this maneuver, if necessary. The needle end is rather dull and as its lumen is closed by the stylet one need not fear serious bleeding, as the instrument generally pushes aside the blood vessels. The stylet further prevents clogging of the needle by brain substance.

Aspiration of the brain is contraindicated in the region of the fissure of Sylvius and in the lower part of the motor region. With these exceptions the procedure, if carried out under rigid aseptic precautions, is not a dangerous one. It is noteworthy in this respect that Neisser and Pollack, who more than any other authors have popularized this method of diagnosing certain brain lesions, do not even incise the scalp down to the skull. They shave, disinfect the skin and apply the drill, boring the skin, periosteum and skull through at one time.

It is scarcely necessary to emphasize that aspiration is contraindicated in any but limited hemorrhage without focal phenomena. In extensive hemorrhage with focal symptoms or rapidly increasing brain pressure, operative surgery is imperatively indicated and diagnostic aspiration is out of place.

(To be continued)

Discussion and Solution of Problem No. 1

Recapitulation. (See January issue, p. 59). A middle aged patient who had had several attacks of gonococcal urethritis, for which he was given more or less rational therapy, suffered from urethral stricture, for which he sought advice. Finding that several metallic sounds of different sizes did not pass the urethral stricture, the physician resorted to the use of filiform bougies, and after successfully passing one managed to begin gradual dilatation of the urethra by perforated sounds slipped over the filiform bougie. During the third treatment an accident occured in that the filiform bougie, not having been securely held in place, was pushed into the urethra out of sight when the perforated sound was passed over it into the bladder. Immediately withdrawing the metal sound it came out empty. Urethroscopy performed up to the site of the stricture failed to show the presence of the bougie. The physician injected into the bladder oil and soap solutions which were expelled without producing the desired effect.

On the urgent demand of the patient a specialist was immediately consulted who advised internal urethrotomy and extraction of the foreign body through an operating cystoscope.

The requirement demands a criticism, if any, of the urologist's advice and the answer to the query whether there is any other method to bring about the desired result.

Discussion by Dr. Emil. C. Junger, Soldier, Iowa

On the assumption that the patient has a tight stricture and that a filiform is in the bladder, I would prefer approach to the foreign body through a suprapubic cystostomy, by which I mean that the incision in the bladder need be scarcely more than a nick in order to get a hold of and extract the bougie. I certainly prefer this route to internal urethrotomy. Aside from the fact that the removal of so fine a thread as a filiform bougie, would be a difficult matter for any general practitioner if that be attempted through the urethra, I am opposed to internal urethrotomy for stricture on account of the risk connected with that operation, especially in a patient who has so pronounced a grade of urethral trouble with gonococci easily aroused from their slumber.

Discussion by Dr. Chas. E. B. Flagg, San Antonio, Texas

The urologist's treatment is correct provided the strictures are confined to the penile urethra, but if they are located in the membranous urethra, perineal section (external urethrotomy) is more properly indicated. Strictures of such small caliber as described in the problem are, as a general

rule, not amenable to dilatation or electrolysis and should be cut and kept from reforming by the frequent passage of sounds.

A small suprapubic opening would suffice for the removal of the bougie and would be less dangerous and more certain than an internal urethrotomy in a stricture of the membranous urethra. Immediate closure of the wound could be done if the urethra permits the introduction of a retention catheter.

It is apparent that the urologist believed that he could keep the bladder free from blood while searching for the bougie with a cystoscope.

It may be of interest here to mention the fact that, while operating on a man recently for duodenal ulcer, I removed a soft rubber catheter by a suprapubic incision of the bladder. This catheter had been pushed in by an orderly and went out of sight. I was told later that the instrument could easily have been removed by an operating cystoscope.

I take it that the attending physician had thoroughly searched the floor before reaching the decision that the filiform bougie was in the bladder.

Discussion by Dr. D. H. Nusbaum, Storm Lake, Iowa

I do not see where this problem indicates any situation of great import. The diagnosis is made and the treatment is simple, whose precise character depends on individual preference. By following the advice of the urologist the stricture certainly will be overcome and the foreign body removed, terminating the entire case.

Of course, another way is to remove the foreign body suprapubically, to attempt dilatation from that direction and to close the wound after leaving in a suitable catheter.

Solution

It is true that the case is simplicity itself and yet not so simple when one takes into account the purely psychologic aspect of the situation. Here is a general practitioner, conscientious and anxious to please his clientele, who has undertaken the task of gradual dilatation of a badly strictured urethra. One need not have a specially developed imagination to realize that the patient was glad to accept this form of treatment in preference to having the stricture cut. This is not the time nor place to enter into the advantages or disadvantages of urethrotomy, both internal and external, as compared with gradual dilatation. Suffice it to say that gradual dilatation is a recognized measure and certainly free from the risks incident to urethral surgery of the cutting type.

All goes on well until an accident occurs. We stated in the problem that the patient was frightened. He was still more frightened when the first consultant, a specialist of great repute, had told him that nothing but a sojourn in the hospital would rid him of the foreign body. The relation that existed from that moment between patient and physician was anything but pleasant. I saw the same patient about twenty minutes later. I can confirm the fact that the bougie was not visible in the urethra. The urethroscope revealed a very tight, scarred stricture. Considering the history and the positive assertion by the attending physician that he had in his possession six filiform bougies all of which had been placed on a tray, and that only five remained after he withdrew the tunneled catheter, there was not a shadow of doubt that the bougie was in the bladder. I, too, tried irrigations of the bladder with a large syringe but the patient voided the fluid without even a tinge of blood.

I impressed the patient with the perfect harmlessness of the situation and counseled at least a little delay in order to gain some time. I gave a prescription of hexamethylenamin on general principles and for psychic effect.

Before midnight the physician called me on the phone and with profuse thanks informed me that the entire bougie had come away on urination, having broken, in the the bladder, into two parts, the shorter one measuring about three inches.

Problem No. 3

A young man, single, clerk, with no family history bearing on the case, who has had scarlet fever in childhood and an appendicectomy for an acute attack while on military duty overseas (1918), but other wise has always been in good health, began, three days before you are consulted, to suffer from toothache. He was awakened during the following night by a severe chill and excruciating pain in the right lower jaw. The right cheek was greatly swollen. A hot water bag brought no relief. He was seen by a physician early in the morning following, who pronuonced the condition an infection produced by a carious tooth and advised that a dentist be consulted. About two hours after the physician saw him the offending tooth was extracted.

The patient states that there was no relief, but he kept rinsing his mouth with

a hot, mild antiseptic solution the rest of the day. His cheek swelled more and more towards evening and the swelling involved the neck, eye and forehead so that on the affected side he was not recognizable.

The physician, who was recalled, now diagnosed an abscess of the soft parts around the jaw and incised the gum deeply but nothing but frothy blood escaped. The incision, however, gave the patient some respite from the intense pain, at least for an hour.

The next day his condition was much worse and again the attending physician pushed a narrow scalpel into the gum without any result.

The following morning the condition of the patient alarmed his attendant, who had him sent to the hospital where you are consulted.

On examination the condition is found as described. The patient has a rapid pulse, thready in character, and seems to have great difficulty in breathing, having decided air hunger. The appearance of the general condition is that of profound sepsis, though the patient has a wonderfully clear mentality.

Requirement. Diagnosis. Criticism of the treatment so far administered. Treatment to be ordered. Prognosis.

SURGERY OF THE FOOT

PAINS in the feet and legs without apparent cause point to poor circulation or poor support.

A sense of pain or undue fatigue on slight exertion is an unfailing sign of lack of arterial blood supply—arteriosclerosis is the cause; if in one limb or if the patient be under fifty, think of syphilis.

All wounds, injuries, ulcers, and infections in the lower limb get well more quickly if the part is elevated and put at complete rest.

You cannot give complete rest to a lower limb and permit the patient to walk about at the same time.

Remember that as long as there is acute inflammation in any part a hot moist dressing is the best.

When you cannot give complete rest to a part or all of the lower limb apply a bandage from the toes as far as the upper limit of your fixed dressing.

When for any reason you must constrict a limb in its continuity, you should always apply a snug bandage from the toes as far as the point of constriction.

—*Bernays*: *"Golden Rules of Surgery."*

Clinical Notes and Practical Suggestions

Mental Hygiene of Childhood*

THE mental hygiene movement is less than twenty years old.

Physical hygiene has for its object the prevention of physical disease. Mental hygiene has for its goal the prevention of mental disorders and handicapping habits. It is now fully appreciated that good physical health in early childhood means much for the physical constitution in later life. It is not yet properly appreciated that stable nervous and mental health in childhood has the greatest significance for a stable nervous and mental constitution in after years.

Mental hygiene has to do with our thinking, feeling and acting—the behavior of the individual as a whole, in his personal and social relations. It has to do with how he handles himself, other persons and situations. Its main object is the attainment of nervous and mental health, poise and equilibrium, with the prevention of harmful habits of mind, their early diagnosis, prevention and cure when possible. Upon it depends happiness, efficiency and success.

The younger a person is, the more easily can he be modified and readjusted. That is the reason for the great importance of mental hygiene in childhood, even in the period before going to school—yes, from the very moment of birth. Here we deal with family and school influence, especially the parent-child and teacher-child relationships.

How many of you are satisfied with the way you have brought up or are bringing up your children? How many of you are satisfied with the way you yourselves were brought up? How much are parents responsible for the troubles of their children by reason of their own emotional attitudes—selfishness, jealousy, anger, hate, spite, tyranny, self-pity, constant complaining, pessimism, useless fears, feelings of inferiority or superiority, bullying, and the like? How often do parents use their children as safety valves for their own emotional blow-ups?

The youngest child knows much more of what is going on around him at home—that is, the words, actions and attitudes of his parents and others—than the average parent imagines or gives him credit for.

Parental education in child training and mental hygiene and the reorganization of adults are essential. Most parents refuse to face facts but everlastingly justify their behavior by stubborn refusal to hold themselves to strict accountability. Most parents err by going to extremes—either under or over-guidance of their children. Mismanagement results in misbehavior. Much too often parents encourage over-dependence of their children upon them, because they are unwilling to let them grow up. They do not give them sufficient opportunity for growth and development, mentally as well as physically.

Ask yourself and answer the following questions: Is your child excessively jealous, cruel and pugnacious or stubborn, with bad temper or temper tantrums? Does he fail to get along in school or to make friends? Has he marked feelings of inferiority, self-depreciation and self-accusation, or of shyness, backwardness and timidity? Is he inclined to depression, doubts and scruples? Does he suffer from night-terrors, sleeplessness, bed-wetting beyond infancy, refusal of food or food idiosyncrasies? Does he show pronounced selfishness, self-indulgence and egotism, with too much dependence on his elders and lack of initiative? Is he afflicted with stuttering, stammering or other similar speech defect? These, and many other conditions, fall within the scope of mental hygiene, and each one of these conditions is as much a problem as the various physical diseases your child may have, or as your household or business duties are.

There are different problems in infancy, in the period preceding school, in the school

*A radio talk given over Station WQJ., Chicago, on Dec. 14, 1926, under the auspices of the Illinois State Medical Society.

period, in puberty and in adolescence. For example, when your child is nervous or disobedient or has temper tantrums or is timid and fearful, how much are you yourself to blame? If he is nervous, find out whether you cause or exaggerate it by asking yourself the following questions: Am I myself nervous? Do I constantly tell him about my nervousness so that I may gain and maintain his sympathy? Do I constantly remind him how nervous he is? Do I tell other persons in his presence how nervous or queer or peculiar he is? Do I worry him with his health and habits and with my worries over him? Do I coddle him excessively and overprotect and spoil him? Do I deny him independence of thought and action? Do I torment, bully and tyrannize over him?

Discipline should be the result of study and plan, rather than punishment given in anger, on the spur of the moment.

Excessive authority may crush out initiative and independence or produce an attitude of groundless and constant rebellion and opposition, or force the child to seek refuge in abnormal phantasy, day dreaming and building air-castles. If authority is insufficient, the child may run amuck.

The fears of children are not foolish but always have causes which are removable. There are no inherited fears, except perhaps of excessive noise and falling. All fears are acquired. Frightening children is, of course, out of the question. The cause of individual fears in children must be studied, analyzed and removed by explanation or by changing environmental conditions. Do not minimize, criticize, or ridicule your children's fears. Although fears may be due to unpleasant experiences, misinformation, the strange and unknown, they may also be due to internal mental conflicts which the child is nursing secretly. These internal mental conflicts may be centered about death or some similar problem. Just a little thought will show the error of putting into the mind of the child the line in the evening prayer which reads: "If I should die before I wake."

Direct your child to have morale, courage, backbone, initiative, independence, self-confidence, the sporting attitude of being a good loser, and a cheerful wholesome philosophy of life.

Make the most of the child's assets and the least of his handicaps and liabilities so that there will be the greatest unfoldment of the individual with the necessary conformity to social standards.

Real education means not merely the piling up of facts and figures, the subject matter of books, but how to think, feel and live harmoniously and usefully.

Parents do not own their children. They do owe their children certain definite obligations—to give their personalities and opportunity for satisfactory development and expression. Parenthood is a big job. It requires interest, time, thought, knowledge, effort and patience. Study the child, yourself, his companions and the others in your home. Begin with yourself by a frank self-examination and self-analysis. It has well been said that "Being a proper parent is the most important job any of us has. We live in our children, so it behooves us to do a good job."

There are many books already published which deal with various aspects of parenthood and child training. There are many organizations — city, state and national — actively interested in this work.

Every child should have an examination of his nervous and mental, as well as physical, condition, once a year. If a child has definitely become a nervous or delinquent child or what is called a problem child, and the parents cannot cope with the situation, solution of the difficulty must in some way be obtained. Competent medical advice should be sought.

This is no passing fad. Nervous and mental hygiene has come to stay. With the coming years it will loom larger and larger on the horizon. The ideal is the prevention, early detection and correction of unstable nervous and mental development, personality and character, with the avoidance of undesirable habits and defects. In the end it will lead to better self-understanding, self-discipline, self-direction and self-improvement.

MEYER SOLOMON
Associate in Neurology, Northwestern University Medical School,
Chicago, Ill.

ARE YOU HONEST WITH YOUR CHILDREN?

The importance of honesty in handling children can not be overemphasized. If the early trust and confidence which they have in their parents is carelessly broken down, the props are knocked out of their world, for if what father and mother says is not true, what may be believed? Many times it has a direct bearing on whether or not

obedience is obtained. Some parents will deliberately deceive their children in an attempt to gain obedience or in the hope of making an unpleasant task or duty less painful in anticipation.

One small lad, though he had considerable fear of pain under the dentist's hands, went through the first session manfully, shedding only a tear or two. He dreaded the second visit, however, and continually fretted about it. In order to calm him his mother assured him that "This time he will not hurt you at all." Up to this point the mother had always been right, so he believed her. The shock was a severe one when it happened that he was hurt more than on the previous visit. His implicit confidence was shattered and he became timid and fearful in new situations and showed an evident lack of trust in the statements made to him. This was clearly shown on another occasion at the dentist's several months later. There had been some question of extracting one tooth, but his mother definitely promised him that it should not be done on this particular day and that he need have no fear. If it proved necessary, arrangement would be made later to have it done under ether. He understood this clearly, yet, when actually in the dentist's chair, he became panic-stricken and could not be pacified. All reassuring statements were met with "You told me before that it wouldn't hurt, and it did. I want to go home. He shan't touch my teeth." It will be a long time, if ever, before this child regains his confidence.

D. A. Thom,

Boston, Mass.

WATCH THE HUMIDITY

You may have noticed that shortly after the heating season begins, some of the furniture comes apart; the walls crack and the paper on the walls starts to peel.

The reason for this is that there is not enough moisture in poorly ventilated and overheated rooms.

Just imagine what it does to the human machine! Dry, hot air dries out the protective secretions of the delicate linings of the air passages and permits the germs to do their dirty work.

Colds, coughs, bronchitis, "flu" and pneumonia are winter diseases. Living indoors in still, hot and dry air decreases our resistance to these diseases.

At a temperature of 64° to 68°F., air of rooms should have about 40 percent humidity.

Put a large pan of water on each radiator and keep it filled, so that at least one-half gallon of water per day is evaporated for each room of average size.

For health and comfort, watch the moisture as well as the temperature of your room.

Herman N. Bundesen,

Chicago, Ill.

DYSPEPSIA CONDUCIVE TO LONGEVITY

The above caption may seem paradoxical. Life is absolutely dependent on assimilation of food, and digestion is a prerequisite for assimilation. Yet, the heading of this article may not be so absurd as it at first appears. I appeal to any physician who has been long in practice; have you not among your clientage many elderly people who will tell you that they have had dyspepsia all their lives? Yet they appear to be enjoying a hale and hearty old age. This being true, there is a reason for it. The cause is not hard to find.

Man is so constituted that he is prone to indulge himself so long as there is any pleasure in the act, regardless of consequences. This is especially true in the matter of eating. The average man eats until he is surfeited. If this were repeated only three times a day, it would not be so bad, but the chances are that there are lunches between meals and a "snack" before retiring. What is the result? If the subject has a cast-iron stomach, such as the good Lord gives to the majority of the human family, he gets away with it with only trifling inconvenience.

This may go on for years, but the tax on the vital organs incident to constantly taking into the system double the amount of food that is needed, or can be used, eventually results in a break. A slow poisoning has been going on for a long time. The kidneys are usually the first to cry out; soon other organs are affected and at 50 or 60 the man's work is at an end. Verily, man "digs his grave with his teeth."

Why did the Creator give to human beings stomachs with a capacity double the system's daily need? Because primitive man needed such a receptacle, since he had the wherewithal to fill it only when he could make a killing or find a berry patch. But today, in this land of plenty, there is opportunity to gorge several times a day and few there be who do not eat to capacity. And why not? Food is pleasing to the taste

and when we are cloyed with one article, other delicacies are spread on the table to tempt us.

Let us now consider the "dyspeptic". He is a man (or woman) of like passions as his brothers. He has the same love for good food and has naturally no more self control. It is not because of inherent goodness or strength of character on his part that he does not follow the example constantly set before him. It is because of the punishment sure and speedy that follows every indiscretion in eating.

The difference between the dyspeptic and his more fortunate (?) brother is the difference between acute and chronic poisoning. It is difficult to convince the man who suffers no immediate inconvenience from over-eating that he needs to curb his indulgence at the table. The man with a "weak stomach" knows what causes his trouble. The punishment is so swift and sure that no doubt is left in his mind as to the cause, and he is easily persuaded to be judicious in his eating. He forgets, time and again, but the speedy distress that follows makes him more and more cautious until at last he acquires the habit of eating plain food and just enough to supply the bodily needs. In other words, he learns to "eat to live rather than to live to eat". Result: Barring an automobile accident, he lives to a green old age and is able to enjoy life here long after Charon, the grim boatman, has ferried his former husky companions across the River.

THEO. F. JOHNSON,
National City, Calif.

[Some wise man once remarked that the way to live long is to acquire some chronic disease, and *take care of it*. This agrees well with Dr. Johnson's suggestions.

We should all be striving, every day, to teach our patients to eat like twentieth-century civilized beings and not like cave men on a gastronomic debauch.—ED.]

WHY QUACKS FLOURISH

The three main reasons why quacks flourish, get rich and find it always easy to attract more fish to their nets, while the competent and experienced practicing physician cannot compete on an even basis are:

1.—The quack advertises his location, his prices, his methods, his cures, in high-sounding phrases.

(The ethical physician does not.)

2.—The quack treats everyone who comes in his door whether they need it or not, and often thus effects "cures" by putting his patients' minds at rest.

(The ethical physician would not.)

3.—The quack spends much of his time learning how to appeal to his dupes and how to get more of them in. None is "wasted" in mastering his "profession". He thus learns the psychology of the sick and invents methods and systems to appeal to them.

(The ethical physician does not.)

REED & CARNRICK,

COLLECTING BILLS

The doctor in the country has the worst time collecting bills. Bradstreet, collection agencies and certain marks after names in books possessed by merchants make for better collections with the city doctor, but the suburban practitioner must mark out his own course or lose. The country doctor does the best he can and struggles through.

Every bill, aside from those that are pure charity, can be collected. Most of them may be collected by mail, notwithstanding the restrictions put on the collector in the words, "misuse of the mails". So jealously does our Uncle Samuel guard the good name of those who use the mails that it is even improper to say of anyone that he is "slow pay".

Those who have attended many court trials (I'd sooner attend a court trial than a movie), have observed that infractions of the law often depend upon the use of *words*. Certain words, uttered in a letter against any person, are punishable *per se:* That is, they carry their own conviction. Criminal libel is an assault. It is an attack on a name and the law presumes that your name is good until it is proven bad. So, one must be careful lest in the heat engendered in chasing a bad debt one does not overstep.

Kindness always pays. Since the law is a stickler for words, I have made some mighty good collections and at the same time been generous. Recently I made such a collection. I call it "giving a *degree*".

A very nice young lady teacher left here owing an account at a store. The matter was placed in my hands. The young lady, although very pleasing personally, was "hard boiled". I mailed her the statement, making note as to its date of mailing. No reply. Hearing that she had moved to another city, I mailed it to the new address.

No reply. Hearing that she had a position in a city, I called on her when I happened to be there. She had "overlooked" the matter, so she said. She would mail it to my home address. It would no doubt be there in four days. It did not come.

Hearing that the young lady had a position as teacher in a school in an adjoining county, I mailed her the statement, merely the amount due, under term "balance". There was no reply. Then I determined to give her the "degree". This is the form. It nearly always brings the cash.

....., ..., ...
Town State Date

"Dear Miss Black:

I am enclosing to you a statement of the balance due the Blank Department Store at ..... For your information I will say that I have mailed you a copy of this account at different times. I wish to say that the Blank Department Store people inform me that, as the enclosed was an accommodation, they feel that the account should be settled. However, as I have mailed you this account on numerous dates (here I gave dates) and received no reply, I cannot help thinking that you are 'up against it'. I am sure that otherwise this bill would have been paid long ago.

"Believing this, as I do, I think I can help you. I am making out your account, giving items and dates. I shall even have it attested by a notary public.

"I cannot help thinking that if the school board knew that you were in these financial straits they would feel that you should be helped. Acting on this belief, I am going to forward this attested, itemized statement to the president of your school board with the suggestion that the board forward me the amount. I am sure the board will feel like making an exception in your case.

"Dear Miss Black, I am surely glad that I thought of this method of assisting you. I am so sure that the board will respond with a check to cover, that I shall wait a few days and if I receive no response from you I will take it that this method is acceptable to you. The board will incur no risk in the matter as they could easily reimburse themselves out of any money due you from them as salary.

Yours very truly,

.....,
Collector."

It is needless to say that I received a reply at once with remittance in full. However, I am sorry to relate, Miss Black did not seem to appreciate my well-meant efforts in the matter. Her letter did not reflect that courtesy one might have expected from one who had been "favored". It read:

"(naming me .....): Here is your old money. I shall never enter the Blank Department Store again.

...."

I was told that she really did come back. She even purchased something. But she didn't ask for credit.

E. H. ARMSTRONG,

Pleasanton, Texas.

BABY'S DAILY TIME CARD
(Under Five Months)

The following schedule will be found satisfactory for the baby less than 5 months old. Of course, the mother should consult her doctor about the baby's diet and daily routine. Doctor or mother may find it necessary or wise to make changes in the time card suggested here. The important thing is to plan baby's day, as you plan your own, and to stick to the plan:

4-hour feeding	3-hour feeding	
6:00 a.m.	6:00 a.m.	Breast feeding. Leave in crib to sleep.
8:15	8:15	Plain cod-liver oil, then orange juice.
8:30	8:30	Bath. Before bath let baby kick and play freely on bed a few minutes without clothes.
10:00	9:00	Breast feeding.
10:20	9:20	Out of doors until feeding time. Sun bath and long nap in sun. Drink of water after nap.
2:00 p.m.	12:00 Noon	Breast feeding.
2:20	12:20 p.m.	Out of doors as long as season permits, in sun except on very hot days. Long nap. Drink of water after nap.
	3:00	Breast feeding.
3:20	3:20	Out of doors as long as season permits.
5:15	5:15	Undress for night. Before putting on baby's night clothes let him kick and play a few minutes on bed. Play must not be exciting nor rough.
5:45	5:45	Plain cod-liver oil, then orange juice.
6:00	6:00	Breat feeding.
6:20	6:20	Bed, lights out, windows open.
10:00	10:00	Breat feeding.
2:00 a.m.	2:00 a.m.	Breast feeding (this feeding should not be given after first two months).

Training the Baby under Five Months

Parents must work together from the time the baby is born to give him good habits. Babies are born without habits. They will learn good ones as easily as bad. If you want a "good" baby, here are some rules to go by:

Feed the baby regularly by the clock every three hours or every four hours according to the physician's advice. Before

and after feeding hold up the baby and pat him on the back until he belches.

Let the baby's sleeping periods be regular. After each feeding leave him alone to sleep. During the day have him sleep outdoors—in the sun if the weather permits. When putting him to bed for the night open the windows of his bedroom and put out the light.

Every baby must sleep alone in a separate bed or crib.

Give the baby exercise regularly. Twice a day, before bathing him in the morning and after undressing him for the night, let him kick and play freely on the bed for a few minutes without clothes. Also hold him and play with him gently. Before bedtime is a good time for the father to play with the baby. The play must not be rough nor exciting.

Do not spoil the baby by picking him up every time he cries. Crying may mean that he is hungry or uncomfortable or merely that he wishes to be noticed. Find out whether he is uncomfortable, but do not rock him nor pick him up nor feed him before his regular time just to stop his crying. This will only spoil him. A certain amount of crying is not harmful; it even gives him some exercise.

Begin sun baths when the baby is 3 or 4 weeks old.

Diet

Nurse the baby regularly by the clock.

When the baby is 2 or 3 weeks old give him pure, plain cod-liver oil. Begin with ½ teaspoonful twice a day, and as the baby gets older give more, until at 3 months of age he is getting 1½ teaspoonful twice a day. Give the oil when the baby is undressed for the bath and for the night.

Give orange juice or tomato juice by the end of the first month. Begin with ½ tablespoonful of orange juice twice a day in an equal amount of boiled cool water, and give more and more until you are giving 1 tablespoonful twice a day. If tomato juice is used, begin with 1 tablespoonful twice a day (without water) and later give 2 tablespoonfuls twice a day. The tomato juice may be fresh or canned. It should be strained.

Two or three times a day (oftener in summer) offer the baby a bottle of boiled water, warmed but not sweetened, 1 to 3 ounces at a time. He may refuse it, but it should be offered to him anyway.

CHILDREN'S BUREAU,
U. S. Dept. of Labor.

REGIONAL ANESTHESIA IN UROLOGY*

For operations upon the bladder and prostate, such as removal of vesical tumors by electrocoagulation and the like, sacral (epidural) anesthesia is highly satisfactory in most cases (Dr. Hugh Young, of Johns Hopkins, says 92 or 93 percent.—ED.) though not in all. It is much safer and better than general anesthesia in poor surgical risks, as many of these patients are. In any case where diathermy is to be used, ether is unsafe and ethylene is worse, because of the danger of explosions. Moreover, nerve blocking at a distance is preferable to infiltration anesthesia, which obscures the field of operation and increases the danger of infection.

Sacral blocking is *not* spinal anesthesia, and there is no danger of getting into the spinal sac unless it extends below the second sacral foramen, which is rare. All danger can be avoided by entering the needle separate from the syringe and watching to see if there is any escape of cerebrospinal fluid. This should be done in every case, and the escape of blood will show when the needle has entered a vein. In either of these cases, withdraw the needle and try again.

Place the patient on a table with the body flexed as for a spinal puncture. Locate the tip of the coccyx and follow up until the cornua of the sacrum are felt. Between these is the sacral hiatus, where the needle should be entered. These landmarks are usually easy to find.

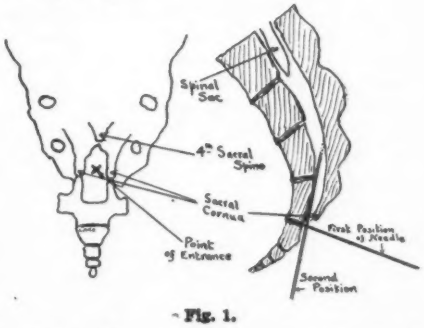


Fig. 1.

The needle (3 inches long — 18 gauge) should be held perpendicular to the skin over the hiatus and pushed straight down, puncturing the sacrococcygeal ligament, until it touches the bone. The point of the needle

*Abstract of a talk by Dr. A. E. Jones before the Monthly Physiotherapeutic Lecture Clinic, Jan. 11, 1927.

should now be turned upward and advanced gently until bone is again encountered (See Fig. 1), from which point it should be withdrawn about 1 cm. If neither blood nor cerebrospinal fluid appear at the shank of the needle the injection of 25 cc. of a 1-percent solution of procaine (containing 0.25 Gm. of the drug), with 0.25 *mgm.* of epinephrin, should be made. This combination of drugs should be obtained in tablet form and sterile solutions made up freshly for each operation or sterile ampules of solution should be used.

Sacral anesthesia is easy to give and practically free from danger and trouble; while spinal anesthesia requires special skill for its administration and, even under the best of circumstances, is more or less dangerous. Sacral anesthesia is useless for circumcisions and other operations on the skin of the pudendum.

For urethral anesthesia, as in cystoscopy, nothing is so satisfactory as butyn. Ten cc. of a 2-percent solution should be injected into the urethra and retained for five minutes.

G.B.L.

THE WHITE SPOTS OF EPILEPSY

Permit me to correct an error into which you have fallen in a criticism of my recent book: "The White Spots of Epilepsy and Other Phases of the Disease." (See CLIN. MED. & SURG. for Jan. 1927, p. 82.) In the criticism is the statement that I proposed Oenanthus crocata as a remedy in the "epilepsies". I advised the use of this remedy in *incipient epilepsy*, a condition that often precedes the first convulsive attacks, and is manifested by such symptoms as faintings, dizzy attacks, sudden pallors, staring spells, etc. A careful study of this phase of epilepsy (an important thing for the family doctor and the school doctor to be aware of) was presented to my fellows of the American Medical Association at the Boston meeting in 1921, and had the paper been published in the *J.A.M.A.* then, as I begged Dr. Simmons to do, for the benefit of afflicted children, you would not now be seeking "confirmation of my findings by other workers", for other workers would have had the opportunity of knowing what was to be confirmed, or denied.

The reviewer criticized my diagnosing cases of incipient epilepsy with the aid of the "white spots" present in the skin of these patients and stated that "the diagnosis might very well have been made by the symptoms—dizzy spells and fainting—stated to be present."

He missed the point in the use of the spots. It would be a parody on diagnosis to state that a child had epilepsy because it had a fainting spell, or was dizzy. You could *suspect* epilepsy in such a case, but would not be justified in diagnosing it as epilepsy. But if, with these symptoms of incipient epilepsy, you find the "white spots", together with the abnormal skin reflexes that I have described in my book, you can make an *accurate* diagnosis of epilepsy, because the *objective* signs of the disease are present. Symptoms plus signs render diagnoses positive.

Regarding the spots; Why not get acquainted with them? The pictures of them in my book which are criticized, demonstrate what I have written about their varying intensity. The original photographs show even the ones so faintly tinted that they were lost in the photo-graving process.

When a doctor wishes to observe Koplik's spots he looks for them in a case of measles; the white spots discovered by me are to be seen on epileptics. A recent critic stated that I named them "Tracy spots". He was in error. They were so named by an eminent neurologist, the late Dr. E. E. Souther, professor of neuropathology at Harvard Medical School. The Tracy spots are not theories; they are facts that patients, nurses, and parents readily perceive and apprehend, once their attention is directed to them. Facts are stubborn things, and should be faced. You have to face those spots to see them.

In closing let me repeat: these spots are not put forth as theories, of which the books are full, but as a visible fact capable of verification by the use of the eyes. Photogravures in this case are but a poor substitute for the use of the eyes in the direct verification of the spots.

EDWARD A. TRACY,

Boston, Mass.

IODINE IN THE PREOPERATIVE SURGICAL TREATMENT OF GOITER

In my experience the great majority of cases need iodine preoperatively for only 7 to 10 days, but in some cases the greatest benefit does not follow until the end of two or even three weeks. In severely toxic patients I have seen a fall in basal metabolic

rate of from 60 to 70 points in one week, an average of 10 points a day. The average fall is about 2 to 3 points a day.

Although there is general agreement among surgeons as to the value of iodine in the preoperative preparation of patients with exophthalmic goiter, there is great difference of opinion as to the advisability of using it in cases of toxic adenoma. However, more and more evidence is accumulating which shows that some of these cases do improve though, in general, the majority of clinicians who see a large number of these cases believe that iodine does not produce as great benefit in toxic adenomas as it does in exophthalmic goiter.

I have been using iodine preoperatively since early in 1925, at first giving very small doses, and only to patients in the hospital where the effect could be carefully watched and controlled. I later increased the dose, and now begin with 10 minims three times a day.

Probably the most convincing report on the value of iodine in toxic adenomas is that of Graham and Cutler, of Cleveland. In order to compare the response to iodine in exophthalmic goiter and toxic adenoma they selected only cases which had not had previous operation, iodine treatment, or x-ray treatment, and in which primary thyroidectomy followed the administration of iodine. So selected they had 4 cases of toxic adenoma with no exophthalmos, and no thrill or bruit, and 10 cases of exophthalmic goiter. None of these 4 cases were aggravated by the iodine but on the contrary responded in the same manner and in about the same ratio as did the cases of exophthalmic goiter. In previously untreated cases, they have found such a period of primary improvement the rule. Hyperthyroidism together with enlargement of the thyroid of any degree they regard as sufficient indication for administration of iodine, irrespective of the presence or abscence of adenoma, but point out that cases of toxic adenoma require less iodine and for a shorter period of time than do cases of exophthalmic goiter, probably due to the difference in degree of hyperplasia in the two conditions.

Charles Elliott, of Chicago, recently reported his experience in the preoperative use of iodine in 18 cases of toxic adenoma and 18 cases of exophthalmic goiter; 13 of the former and 15 of the latter showed more than 50 percent decrease in the basal metabolic rate. He expressed his surprise at finding so little difference in the response to iodine in the two groups.

In a recent study of 122 cases of thyroid disease made at the Michael Reese Hospital by Drs. Portis and Rubin and checked by Dr. Schultz, the pathologist, in which the clinical manifestations and histologic findings were correlated, it was found that 74.6 percent of the 61 cases receiving iodine were benefited, irrespective of whether the thyroid gland showed hyperplasia, no hyperplasia, or degenerative changes.

The 122 cases included 44 adenomas. Of these adenomas, 15 were treated by iodine; 10 of the 15 improved very definitely; 5 did not improve; and 2 of the 5 were made worse.

It seems likely that our present ideas of adenomas may need modification, especially regarding the use of iodine preliminary to operation in toxic adenomas.

DAVID C. STRAUS,
Chicago, Ill.

(Abstracted from *Bul. Chicago Med. Soc.*)

PHYSICAL THERAPY IN ARTHRITIS*

There are two types of arthritis: proliferative and degenerative (or hypertrophic and atrophic). In both types, heat, applied by means of the infrared lamp, radiant heat-light or diathermy, relieves the pain and tends to cure by producing a hyperemia which flushes the blood and lymph vessels. The increased blood supply also leads to increased oxidation; and, while there is no *known* relation between arthritis and defective elimination, the sweating produced may be of value in some cases.

Massage is also helpful in cases of arthritis, but has been much abused. The friction should be very gentle and used only for short periods. Gentle, local massage for five minutes is better than where more force and time are employed.

Diathermy will not absorb overgrowth of bone and cartilage, but it will *prevent* them if used sufficiently early. It also intensifies the action of any drugs which may be administered.

In applying diathermy the electrodes should be placed on opposite sides of the affected joint. If both knees and ankles are involved, run the current from one foot to the other, but *short circuit* it just above the knees if you want to see results. In multiple arthritis, use autocondensation. All types

*Abstract of a lecture by Dr. J. C. Elsom, before the Iowa Radiological and Physiotherapy Society, at Des Moines, Ia., Nov. 11, 1926.

of diathermy treatment in these cases should be given *2 or 3 times a day.*

Sun baths are frequently helpful in these cases—or one may use ultraviolet irradiations—for their general tonic effect. The carbon arc gives off a variety of rays of different wave lengths.

Rest is necessary in all acute cases; but in subacute and chronic cases mild and regular exercise is very beneficial.

The results from all forms of treatment are decidedly irregular, so that the prognosis must be made carefully.

In all except acute cases the primary indications are for *heat* and *motion.*

G. B. L.

DIATHERMY IN THE TREATMENT OF SENILE CATARACTS

In June, 1925, experiments on myself and my associate, Dr. George S. Fuller, convinced us that diathermy could be used through the eyes up to 1000 to 1200 milliamperes.

In November, 1925, Mrs. S., age 62, blind from cataract in one eye for three years and with a cataract developing in the other eye, came to us. Vision was impaired to the extent that getting around was difficult.

Preparatory measures consisted of a few treatments by Tesla autocondensation, on the large pad, with the administration of moderate doses of equal parts of Epsom salts and bicarbonate of soda.

The treatment of the cataracts was as follows: A large block-tin electrode was placed on the back of the neck and extended down between the shoulders; a mesh electrode was folded and fitted down over the eyes, covering the eyes, eyebrows and most of the nose, the mesh being applied damp and with wet towels covering it. The D'Arsonval bipolar current was applied, starting at about 500 milliamperes and gradually increasing to the comfortable tolerance of the patient which is found to average about 1000 milliamperes. Tolerance of the patient was always the guide. The length of treatments was from 30 to 50 minutes.

Treatments were given daily for the first month, then every other day and later once a week. Surging sinusoidal treatments were used, to agreeable toleration of the patient, after two weeks. Within one month the better eye was clear of cataract and the other was beginning to clear and has continued steadily to improve.

Since that time, cataracts in patients up to 75, 84 and 87 years old have likewise cleared up.

Newly formed cataracts disappear rapidly: Long existing ones slowly. I have not seen a case that would not yield. It seems that in the future cotaracts should not be allowed to develop before treatment is instituted.

Others, complaining of diminished vision, have been treated with excellent results.

E. W. Cox,

Everett, Wash.

STOP A MOMENT!

These three words, prominently posted near a place where suicides were frequent in Tokio, have been the cause of turning sixteen would-be self-slayers from their desperate purpose in the last six months. In a few lines following the heading the reader was begged, whatever his reason for ending his life, not to put his decision into execution without seeing "Mme. Jo, President of the Women's Association for Happiness," whose address was given. The first to follow the advice was a woman whose husband had abandoned her. There was a full, kindly talk over the situation. The husband was called in, and the trouble was made up.

The genius who invented the sign "Stop, Look, Listen" now displayed at every railroad grade crossing in the United States is credited with the saving of thousands of lives. Such an appeal for a moment's reflection before acting rashly might well be extended to many affairs in daily life. There is the letter that had better not be written, or, if written, not sent; the angry reprimand to an employe who may be guiltless; the hasty resentment of a slight perhaps unintended; the indulgence in a bad habit or an extravagance likely to have unhappy consequences. For us all, the advice is worth heeding. Stop a moment!

B. Sherwood-Dunn,

Nice, France.

EXTENSION IN ACUTE TORTICOLLIS

Glancing through an osteopathic publication recently, I was impressed by the fact that frequently these cults teach certain simple measures to their adherents that we are obliged, as medical men, to work out by practical experience and which, frequently, are not discovered at all.

The point I have particular reference to is the description of immobilizing the neck by extension in the treatment of spasmodic torticollis. This reminds me of an experience of my own which it never occurred to me to report but which may prove helpful to those who have not tried this method.

I was called upon one night to attend a man about 60 years of age who had been suffering for two or three days from a very painful myositis of the scaleni and erector spinae group of muscles, so that the slightest movement of the head produced excruciating pains. Salicylates, morphine, and hot applications gave only partial and temporary relief and the patient had become exhausted from loss of sleep. I conceived the idea of immobilizing the neck by applying extension. I put on a modified Barton's head bandage, passed a rope from this over the edge of a table placed at the head of the bed and suspended a weight from the rope over the far edge of the table. In a few minutes the patient was snoring peacefully.

I have not had occasion to test the effectiveness of this on other cases, but the striking results in this case and the fact that it rests on a sound principle makes me feel that it may be worth reporting.

G. J. WARNSHUIS,

Milton, Wis.

REGISTERING LABORATORY TECHNICIANS

Some time ago, with the cooperation of the various radiological societies of the United States, an association of x-ray laboratory technicians was successfully organized.

It has occurred to me that, as many pathology laboratory technicians are being trained, besides the hundreds who are already active in this field, in hospitals, doctors' offices, state public-health laboratories, etc., the time has arrived when an international association of technicians, to be known as the "American Association of Pathology Technicians", should be formed.

To be entitled to membership in this organization the candidate must have received at least 6 months instruction in a "class A" school of technic, and have had 6 months practical experience in a hospital laboratory. On investigation I have found several correspondence courses in laboratory technic and pathology. Technicians trained in "schools" of this type should be eliminated. It is suggested that an examination be given the candidates at the nearest appointed examination center, and a certificate of membership be issued to each successful candidate.

State registration of technicians would then be the next work to be undertaken.

It is hoped that the A.M.A. would be in favor of such an undertaking. It can be seen that such an association as I have mentioned would be of benefit both to the medical men and the technicians themselves.

Dr. R. B. H. Gradwohl, of the Gradwohl Laboratories, of St. Louis, Mo., in writing me on this subject, stated that he was heartily in favor of the idea.

A meeting will be held in St. Louis, the latter part of March, 1927, to organize such an association.

E. A. HUDSON,

Freeport, Ill.

[This sounds like a step in the right direction.

There is no doubt that serious or even fatal results may follow the unquestioned acceptance of erroneous reports, rendered by incompetent or careless technicians, and any measure which will improve the quality of laboratory service should be welcomed by all physicians.

If it is a good plan to examine and license or register doctors, nurses, veterinarians, undertakers and even osteopaths and chiropractors, it would seem highly desirable that the laboratory technicians upon whose work we depend for so much vital information should be similarly examined and certified.

All technicians of the better type should also welcome such a procedure, as it will set them apart from the "graduates" of correspondence schools and like fly-by-night institutions and give them a higher professional and economic status.—ED.]

RAYNAUD'S DISEASE
(Report of a Case)

This disease, first described by Dr. Raynaud in 1862, is generally recognized as a vasomotor neurosis, of idiopathic origin and induced to a greater or lesser extent by cold or other physical or emotional disturbance and characterized by local syncope, local asphyxia, and eventually thrombosis and gangrene. Iwai, Soishiro, and Moi-Sai[1], believe that the disease has its pathogenesis in the action of a strongly powerful autoagglutinin which has its full power only in a cold atmospheric environment. The sym-

pathetic nervous system, it is agreed, undoubtedly plays a part in the production of this disease.

The treatment of Raynaud's disease, as in the case of all diseases of vague etiology and indifferent results, is varied and voluminous if one goes to the trouble to look up the literature on the subject. When heat, friction, galvanism, and other physical methods fail and gangrene appears, amputation high above the line of demarcation is, of course, the only thing left to do. But before this terminal stage, we may attempt the use of pituitary extract on the theory that it depresses the sympathetic autonomic system, at the same time stimulating the vagal autonomic system. The surgeon recommends periarterial sympathecectomy. Crichlow[2] recommends treatment by negative pressure.

I am reporting this case for the reason that it is rather an early one, slowly progressive and doing well, at least thus far, under the treatment being used.

Case Report

Mrs. M. E., referred by Dr. Rice, with a history of observing for the past two years a gradual blanching and cyanosis of the fingers and toes whenever exposed to cold. This condition is gradually becoming worse. Previously she has been troubled with "chilblains". Aside from this her family history and past history has been negative, except that she states that she has always been high-strung and nervous, and recently has become particularly so, on account of worry over the death of a child.

During the attacks of finger and toe discoloration, there is extreme pain in the parts involved. There is always an extreme susceptibility to cold. She states that, even with gloves on, her fingers become discolored on exposure to cold although to a lesser extent than when uncovered. When this phenomenon occurs, she can do nothing with them until they are warmed up.

At examination, on account of the patient being in a warm room,the fingers and toes were normal in color but cool to the touch. The remainder of the examination was essentially negative. Both radial and tibial vessels were palpable, and the pulses were of good quality. The patient was then asked to hold her hands out of the window for five minutes. After this period of time had elapsed there was an extreme cyanosis present, up to the wrist, and an extreme lessening of radial pulse volume. Return of good circulation in warm room required about fifteen minutes.

The patient was advised to wear warm fur- or wool-lined gloves, and to keep her extremities as much as possible out of the cold. She was then given a prescription for pituitary extract to be taken by mouth, grs. 1, three times a day. In addition to this, and for no particularly patent reason, she was exposed to the rays of the quartz lamp, and to the heat of the infra-red lamp; the use of the latter lamp in this case being obvious and with good cause. This was done twice weekly. She was also advised to apply twice daily a form of hyperemia which we managed by the use of an air bag such as that used with the sphygmomanometer outfit, this to be compressed on the arm for fifteen minutes at a time. The idea is, as Crichlow says, to put the circulatory system of the part concerned under more definite control wherein the vessels can be dilated and the circulation reestablished until the parts have an opportunity to return to normal.

My patient has faithfully followed all orders and we have all been most gratified at the results. She is still under treatment, but except for a feeling of tingling at the tips of her fingers, which become very slightly cyanotic, she feels well, despite exposure to low temperatures. Of course, this does not mean that we have advised her to deliberately expose herself to extremes of cold.

I might add that she has no syphilitic history, and has always maintained negative Wassermann and Kahn tests, even when she was given three decigrams of neoarsphenamine in an attempt to provoke a positive test if possible.

Conclusions

1.—Raynaud's disease is undoubtedly a vasomotor neurosis, induced especially by cold or emotional stress.

2.—The disease can be benefited, and perhaps cured, especially in the early stages, by the use of heat and hyperemia.

3.—Considerable more study is essential before we shall be able to treat this disease intelligently.

JACOB SPITZ,

Boston, Mass.

1.—Iwai, Soishiro, Mei Sai, Nin, *Japan M. J.*, May, 1925.

2.—R. S. Crichlow, *New Orleans M. & S. J.*, Feb., 1926.

OUT-WITTING YOUR CHILD'S TANTRUMS

Why does the child have recourse to tantrums? The commonest and the most obvious reason is because it frequently happens that a very definite gain accrues to him as a result of his lying down on the floor, kicking, and screaming. The child soon learns (for these children are by no means dull!) that he possesses in this accomplishment a very potent weapon with which to enforce his will.

At other times the tantrum is neither more nor less than the response of an overtired body and jangled nerves to demands made upon the little fellow. Who of us

adults has not felt the impulse to scream with vexation and exhaustion at the end of a day of frenzied shopping or exhausting social diversion? The only "discipline" called for, in such a case, is a swift undressing followed by a hasty tumbling into bed. If the tantrum occurs too early in the day to make this practicable, then a darkened room, after the child's clothing has been loosened and his shoes have been removed, for a half hour's rest and relaxation, with a light lunch following it, may give the little fellow just the opportunity he needs for recovering his mental and emotional balance. A sharp, hasty punishment—even a quick reproof—might have been enough to prolong the outburst until it reached the proportions of a veritable spasm, from which nothing but harm could have resulted. It is the undesirable psychic effects of tantrums that we may fear for our children—not any harmful physical effects. And the psychic effects are much more baneful when we allow the little experimenter to succeed in what he is attempting, than if we check him, and show him that these tactics are not successful. It must be proved to him that he will gain nothing from a repetition of his performance.

As far as physical danger is concerned, no parent need ever fear to allow the child to go to the very limit, in carrying out his tantrum. Nothing that he can possibly do, in the way of breath-holding, head-banging, scratching his face, or tearing his hair need be feared.—*Dr. Frank Howard Richardson, author of "Parenthood and the New Psychology" in Children, The Magazine for Parents.*

MANAGEMENT OF RHEUMATIC FEVER

In treating acute articular rheumatism, or rheumatic fever, the chief indications are to relieve pain and prevent cardiac complications. There are various methods of accomplishing these things, but in a rough country where some of one's patients are a hundred miles away, diathermy and radiant heat are out of the question. One must work with what is at hand.

I make a salve by mixing sodium salicylate with *adeps lanæ*—about all the salicylate the lanolin will take up—and apply this liberally over the affected joint, which I then bandage so as to immobilize it. This immobility is maintained for a week or ten days or as long as there is pain and tenderness. This protects the joint from injury and gives it complete rest, thus diminishing the danger of complications. If the patient is unruly I splint the joint.

For *internal treatment*, I secure free action of the eliminative organs and give from three to six grains each (according to the age and condition of the patient and the severity of the disease) of salol (phenyl salicylate) and sodium salicylate, every four hours for three or four days, and then gradually diminish and discontinue.

I keep a close watch for early symptoms of any complication and treat them symptomatically if or when they arise.

The *diet*, while the patient is in bed, consists of milk in the form best liked by the patient, light broths, cereals, stale bread and recrisped crackers. For a month after getting up, light diet only should be allowed.

If the case is seen early, this treatment will effect a cure in ten days to two weeks, with few or no complications.

If any source of infection can be located it should be attended to promptly and thoroughly; but I am inclined to believe that most cases of rheumatic fever are due to some interference with normal metabolism, brought on, as a rule, by faulty habits as to eating, elimination and general hygiene. Irregular bowel action, overeating and lack of exercise are probably the reasons why rheumatic fever appears with the onset of wintry weather.

E. J. Hay,

Rogers, N. M.

TUBERCULOSIS RESOLUTIONS

Resolutions passed by the National Tuberculosis Association at its 22nd annual meeting in Washington, D. C., October 4-7, 1926.

Resolved, that this conference is in agreement concerning the following points in relation to tuberculosis:

1.—There is no specific cure for tuberculosis (like antitoxin for diphtheria).

2.—There is no specific preventive for tuberculosis (like vaccination for smallpox).

3.—Among the important factors in the cure of active tuberculosis are:

a.—Competent medical supervision.

b.—Complete rest under favorable conditions.

c.—Carefully balanced and adequate nourishment suited to the individual.

d.—Abundance of open air and, if possible, of sunshine.

e.—Relief from other infections, or other physical or mental strains and handicaps.

4.—Among the chief factors in the prevention of tuberculosis are: finding existing cases of tuberculosis, and in each instance bringing the patient under treatment suited to his condition; teaching him how to avoid the infection of others; examining contacts, and securing suitable treatment of actual or potential cases of tuberculosis among them.

5.—Another important factor is the searching out of those persons who by reason of their physical condition, their occupation, or for other reasons, are likely to be especially susceptible to tuberculous infection, such as seriously underweight children, undernourished adults who are recovering from other diseases or are subject to excessive fatigue, and persons who have a healed tuberculous infection, and securing for each of them such advice, treatment, assistance and relief as will minimize the likelihood of the development of tuberculous disease on their part.

6.—The general education of the people of every community as to the measures involved in the prevention of tuberculosis and as to the curability of tuberculosis in its earlier stages is of the utmost importance.

7.—The hospitalization of advanced cases of tuberculosis, when home conditions are not readily subject to efficient management, is an important means of care of the patient and of preventing the spread of infection.

8.—The medical supervision and economic rehabilitation of patients discharged from sanatoria demands particular attention.

9.—Tuberculosis is often associated with undernutrition and all steps leading to the discovery and proper treatment of undernourishment among children and adults contribute to the prevention of tuberculosis.

10.—Medical students should receive adequate training in the diagnosis, treatment and prevention of tuberculosis; there should be made available for all physicians in general practice an opportunity for intensive study and observation in the diagnosis of tuberculosis; and there should also be made available in every community, as needed, the services of those already highly expert in the diagnosis and treatment of tuberculosis.

11.—While it is impossible to measure the exact effect of the various steps taken by communities for the prevention of tuberculosis, such as more intensive medical provision for diagnosis and care, public health nursing in the homes of the tuberculous, sanatoria and hospitals, public health education concerning tuberculosis, the supervision of the health of industrial workers, and similar steps, there is no reason to doubt that these measures have played an important part in bringing about the reduction in tuberculosis mortality, which has occurred practically everywhere.

12.—There is every reason to believe that by a continuance and a further intensification of the measures for the prevention of tuberculosis as now understood, the present rate of decline of tuberculosis can be continued and increased.

13.—We believe that the time has come to include in the tuberculosis program the attack upon certain associated community health problems, such as child welfare and cardiac disease, provided that the program for the application of existing knowledge in relation to the prevention of tuberculosis is well organized and fully maintained.

14.—We believe that the deepening interest in the investigation of the causes, treatment and prevention of tuberculosis should be encouraged and developed.

CASTRATION AND THE PROSTATE

An article appeared in CLINICAL MEDICINE for December, 1926, on page 882, regarding "Castration in Senile Enlargement of the Prostate."

In the practice of veterinary medicine hypertrophic enlargement of the prostate is very commonly encountered in old dogs. It frequently becomes so voluminous that, by compression, the urethral canal is occluded and micturition is a matter of difficulty and at times an impossibility.

Immediate benefits are noticed from castration. Usually within a week urine is passed more or less freely, where before it could not be voided without the use of a catheter.

Whether changes in the vascularity of the gland cause the reduction in size after the operation, or whether hormonic disturbance is responsible is hard to say. Probably, though, circulatory disturbance is the more logical, as removal of the right testicle shrinks the right lobe of the prostate and vice versa. On the other hand, the growth of the gland is apparently dependent upon the growth of the testicle, as it (prostate) is not developed until the age of puberty.

Just how popular castration in the human being would prove, for relief of hypertrophic prostate, will have to be left with the physician. "Trying it out on the dog" has proven satisfactory—on the dog.

E. B. DIBBELL,
Baltimore Animal Hospital,
Baltimore, Md.

A MISUNDERSTANDING AND A QUESTION

I must have been misunderstood in connection with my problem "No. 10", which was discussed in the January issue of CLINICAL MEDICINE AND SURGERY, as indicated by Dr. Lake's comment on page 58. I am on friendly terms with both of the other men who saw the case and talked it over with them both. The physician who saw the case last *did* pass a catheter and the "tumor" disappeared on emptying the bladder. The patient is now using a catheter on himself.

I made no criticism of the man who preceded me—in fact, I defended him against the criticism of the patient—and I am sure the friendly colleague who followed me did no "knocking".

The case was a difficult but not unusual one. The patient was an ignorant man who could see no use in paying a $10 consultation fee. He therefore paid each doctor in succession, discharged him and called another, which he had a perfect right to do.

I believe the request for consultation should come from the attending physician, rather than from a member of the family of the patient. They will, in fact, rarely call for a consultant, but will do as this man did and save the extra fee.

I would appreciate hearing your opinion in this case. Was this patient not within his rights in doing as he did? And is there any reason why a physician should not answer such a call, even if he knew the circumstances—which he rarely does, when called?

I have no reason to feel that I have been harmed in any way by any criticism which may have arisen over this case. I am in a small town, but I like it and consider it the biggest little town in America.

M. O. ROBERTSON,
Bedford, Ind.

—

[More power to the small-town Doctor who "likes it"! May his tribe increase.

We are glad to have this matter cleared up and to learn of another small community where the physicians are on a cordial and friendly footing. The error arose because Dr. Robertson forgot to give the readers of the *Seminar* the whole story.

We feel that there was no legal reason why this patient should not have done as he did, nor any ethical reason why the second and third doctors should not have responded to his call. It is a good plan, when you are called in after another physician has been discharged from a case, to inquire and perhaps insist that the former attendant be paid before you take charge.

The people should be educated to appreciate the value of a medical consultation. Two trained men studying a case *together* can frequently go much farther than the same two men working *separately*. Tell your patients about this—not at the moment of emergency, but when the skies are tranquil and the question of a consultation seems like a purely academic one.

Physicians, too, should learn the value of the assistance of their confreres and *ask for it* in difficult cases.

The consultation fee mentioned by Dr. Robertson is a very modest one, and it would be a mistake to lower it in order to popularize this type of service. In the end, your patients will accept your services at your own valuation, and expert assistance, in a pinch, is worth *at least* $10.—ED.]

The Leisure Hour

Conducted by GEORGE H. CANDLER, M.D.

The Glass Eye

CLOSE clasping the hand of his mother, a child,
whose years of experience were seven,
Looked up at the stars and expressed himself thus—
"they must be the windows of Heaven!"
The mother, divining a vision she lacked,
said, "Son, dear, God lights them for *you*
And, if you are faithful, in Life's blackest night
they will open and let you *see thro'!*"

* * * * *

A grizzled astronomer, focused his lens
on a nebulous star-group and said,
"After twenty years' study, I'm sure I can state
that the sun of that system is *dead*."
His VISION had left him, he now weighed with scales
and spectroscoped asteroids new;
BUT, as GOD made the stars, and *man* made the lens
When he used it he couldn't *see thro'*.

—G. H. C.

From An Angle of Sixty Degrees

VIEWING things from various angles we unquestionably receive different impressions. In these days of diffused education, everyone—or pretty nearly everyone—hastens to record theirs in "imperishable print". Fortunately, the impermanence of mere serried ranks of words in black on white is proven by the fate of last year's "best sellers"—and yesterday's newspapers! Real thoughts, recorded, survive, and great books, written unhurriedly by individuals who sensed and saw things as they transpired, remain to guide us on our own short way and guard us from astigmatism.

It is unfortunate that so many people still "see" everything from an obtuse angle! Some of them, in an effort to improve their view, even wear blue glasses. Naturally, the impressions they receive—and record—are not pleasing. Becoming convinced that the wine of Life has enough tannin in it to make it slightly bitter, they proceed to serve such of it as they can control in quassia cups. This is a distinctly unpleasant habit and should be sternly discouraged. He who donates a little sweetening to the draft from his own slender store is by far the preferable companion.

These somewhat trite and, of course, inconsequential remarks have been, so to speak, expressed from me after a careful study of things mundane from an angle of sixty degrees. That vantage point once gained, one can look forward, backward and on either side. Even though battered and generally somewhat shop-worn from his ascent to this point, the observer is apt to be fairly clear-eyed and, as a matter of self-preservation, has learned to scan the horizon instead of just "his own backyard". Though, as we are constantly and more or less mellifluously informed, "the grass is always greener" there, it is a fact that there is a variety of grasses elsewhere, and many desirable shades of green. Even yet there really are large areas of sward undotted with tin cans. If you can find them, there are, too, tinkling, crystal clear or velvety wine-brown brooks, running through flower- and fern-clad banks into which no tannery or other "industrial enterprise" has yet poured its refuse.

So, too, there are still people able to stroll on Nature's own lawns, to drink, bright-faced and clear-eyed, from her virgin brooks—and decent enough not to throw waste on the grass or spit in the water! From this angle of sixty degrees I can see all these things and it makes me a little indignant with those who, seeing only a *little*, insist that the whole is like their sample.

That there are any number of undesirable persons, places and things in this old world is quite true. There always have been and will be! That the muck-heaps are so much larger and more odoriferous than they ever were, however, is open to argument. They may be over-abundant in some spots and there may be a quite unnecessary number of eager scavengers raking them over, but we have, today, effective disinfectants and can, if necessary, "move from that vicinity" with unparalleled velocity.

We can sit on the apex of the eternal triangle and regard only its broad base or look up till the thing dwindles to a point and disappears! We may be regaled at breakfast with the fantastic fandangoes of priestesses become prostitutes; the pratings of predatory politicians trying to explain their prosperity; or the mumblings of murdering morons trying to dodge hemp.

Shocked, we may turn the printed page for that day only to find piano-legged, fly-blown peaches and over-œdipus-complexed gentlemen of mature age, buzzing like blue-bottles in the limelight and emitting weird odors.

The yellow peril may reach for us; the suicide student shriek as he passes to the shades, "Whence came I and whither am I going?" till we indignantly answer, "Darned if I know: why didn't you stay and find out?"

We may get (we DO) all this, each and every day of our lives, and when we turn to music for solace we may get nothing but BLACK BOTTOM. We may look about for artistic expression and find but cubist abominations. We may seek relief in books and those they offer us have to be handled with tongs—and burned afterwards to keep the family milk from going sour. We may, viewing all these (and other) things from an obtuse angle, arrive at the quite inexcusable conclusion that the world is rotten and all the people in it more or less moronic monstrosities. IT IS NOT: THY ARE NOT. Not any more than it was or they were one hundred, one thousand or ten thousand years ago!

If you question this fact, read your, or *the* Bible. We have now no Sodom or

Gomorrah (tho' perhaps some weak imitations) and we at least do not offer our children, wholesale, to Moloch. Some of us do get "drunken with wine" (nothing else safe being available) but, ordinarily, we stop there and don't emulate Noah in toto. In fact, we live a much more sanitary, sane life than the Philistines, Hittites et al lived. Of course, our females do "tyre their hair" and paint their faces somewhat excessively, but you couldn't get a bunch of modern males to throw one of them out of the window to be run over by Henrys (no horses now) just for that! No indeed. We may have lost chivalry with the cavalry, as is charged in the indictment, but, we asseverate continually that, no matter what she does "she's still our baby". And that is something, don'cher know?

Unswerving loyalty to any (nice-looking) female is good for a man. The coarse Neolithian might have hit his on the head and chucked her over a cliff, but our modern males, with retained "good old days" traits, use a baseball bat and a butcher knife. Further, they bury the pieces in nice separate graves and the head they throw into the swift-running river. It is MUCH better than it was; indeed you should be glad you are alive today—especially if you have your habitat in Chicago.

They say that the possibilities for greatness are not what they were. That is distinctly false Romulus and Remus, suckled by a wolf, became rulers of Rome, but thousands of *our* boys who wolf "milk", quite low in butter fats, from a bootlegger's bottle will undoubtedly become precinct leaders, aldermen, state legislators—or even Beer Barons. All they have to do is wave *excelsior* and they'll arrive. Some, of course, *dead* —but then, look at the funerals they'll have! Romulus never had anything like *that*. Remus may: I dunno?

Then these people patter pessimistically about "our wimmen". How ree-dic-u-lous! Almost too absurd to notice but—. Well there *was* Eve you know, and in every way the sex upholds its traditions. What more, may I ask, *can* they do? Personally, I think they are doing very, very well indeed. Some of 'em, with large understanding, even carrying (off) more than their share.

"Ah", exclaim the quassia-cup quaffers, "*those* are the sophisticated—the self-expressioners, the flirters-with-Freud, but please look at the 'teen age' crowd—the flippant, flighty flappers, Aren't *they* a mess?" And, overlooking the bad grammar, I reply, "I *do* look at them (from my angle of sixty degrees) and, despite their faults, I love them still — or for that matter, when moving about. I thought for a few minutes — or perhaps weeks—that they were, well, just a little bit lacking in reserve, *je ne sais quoi* etc., etc. but, after rereading "The Vicar of Wakefield", I don't believe they are so unlike what their esteemed grandmothers were as one might think. On close examination they would probably prove to be almost identical. We may go even further back and visit Pompeii; *she* was there when Doom fell and she left her orange stick and powder puff behind her—even as she would in the Pompeian Room of some of our swagger hostelries. In those almost forgotten days, always, before and since, the men flocked around her and called her "too sweet to live". She was. She *is!* But there will be more just like her. And for *that*, of course, we should give thanks.

Using the dear old Vicar and his family again for the purpose of illustration, do you really think your boy would have traded the Chev. you are hauled about in for a gross of blue specs—even if they were in shagreen (or pantasote) cases? He has more sense than that and probably would squelch anyone, who like the squire propounded an absurd hypothesis, with "Where didja get that stuff" or "Your gas bag's leaking"! There can be no gainsaying the fact that our snappy combax, at least, are snippier than theirs were.

Then consider—just for a moment—the vicar's daughters. They were "nice girls", awfully "nice girls", but they were more than willing to take a chance. Unsophisticated, yes: but eager to learn anything they could. *They did.* They wanted to ride were our girls would walk and, as a result, walked where our daughters would occupy a limousine. Go back that far, dear pessimists, and then further and further and further and you'll find that we are progressing steadily and retrogression is the last word in our lexicon. The recessional may come but it's the processional for us!

Considering all these things, "what in 'evins noime are you beefin' abaht?" as the Tommy said as he blithely removed a Teutonic helmet—with the owner's head inside!

Thumbnail Therapeutics

CALOMEL AN INTESTINAL ANTISEPTIC

The green stools following the administration of calomel are due to the fact that this drug restrains the growth of putrefactive bacteria in the bowel and thus delays or prevents the reduction of the biliverdin to bilirubin. This indicates that calomel really does act as an intestinal antiseptic.—DRS. VON OETTINGEN AND SOLLMAN, in *J. A. M. A.*

UREA AS A DIURETIC

Urea is an active diuretic and, unlike many such remedies, is *perfectly harmless*. It is the only safe diuretic in nephritis. Doses as high as 60 G. (300 grains) may be given daily. Dissolve it in twice the quantity of *hot* water, but *give it ice cold.* —DR. GUSTAV KOLISCHER, of Chicago.

TREATING THE POSTERIOR URETHRA

Be very careful in treating the posterior urethra. A patient with a mild condition is not grateful if, as a result of harsh treatment, he develops an epididymitis and becomes bedridden for a week or so.—*Urol. & Cutan. Rev.*

LOCAL ANESTHETICS AND SILVER

In general, the various local anesthetics seem to be incompatible with the various silver proteins. They may be used alternately, with suitable intervals between, but not altogether.

EMULSIONS

Sodium soaps emulsify oil in water; calcium soaps emulsify water in oil. — DR. HERMANN HILLE.

RADIOTHERAPY IN UTERINE CARCINOMA

Radium and x-rays should be used only in inoperable cases of uterine carcinoma. Apply the treatment in 5 doses with 3 or 4 days between them. Do *not* operate on cervical cancer after using radium or x-rays. —DR. HENRY SCHMITZ, of Chicago.

BLOOD TRANSFUSION IN PURPURA HEMORRHAGICA

Transfusions of whole undiluted blood will save life in purpura hemorrhagica; they are extremely useful in preparing the patient for the operation of splenectomy in both purpura and hemolytic jaundice; they shorten convalescence in both these conditions and in certain cases of purpura hemorrhagica the blood elements can be brought to a normal level and the patient enabled to go on for a number of years with little trouble.—DR. HAROLD W. JONES, in *Ann. Clin. Med.*

HAND STERILIZATION

After scrubbing the hands thoroughly, submerge the fingers for a few minutes in a 1:1000 solution of metaphen before putting on sterile gloves.—DR. MAX THOREK, in *Illinois M. J.*

HICCOUGH

In my experience the following prescription relieves hiccough promptly and permanently:

℞

Atropin sulph.	gr. 1/30	(0.002)
Codein Sulph.	gr. iii	(0.200)
Acid acetylsalicyl.	ʒ i ss	(6.000)
Caffeine	gr. vi	(0.400)
Cocain hydrochlor.	gr. i ss	(0.100)

M.et.ft.capsul. No. 12.

Sig:—One every 3 hours until relieved.

DR. F. H. MILLIKEN, in *Pharmacal Advance.*

PHYSICAL THERAPY IN PARTIAL DEAFNESS

The prognosis for relief of partial deafness is favorable in *early* cases of nerve deafness and otosclerosis. The *type* of deafness must be carefully diagnosed.

In using diathermy in these cases, apply one electrode over the mastoid and the other in front of the opposite ear, thus concentrating the heat in the petrous portion of the temporal bone.

In otosclerosis, diathermy should be followed with negative galvanism and general body irradiations with the quartz lamp. —DR. A. R. HOLLENDER, of Chicago.

EPINEPHRIN IN SEVERE BEE STINGS

When a human being or an animal is stung by many bees death sometimes follows. The symptoms are those of anaphylaxis or foreign protein poisoning. The treatment is the same as for those condi-

tions— epinephrin, 1:1000 solution, injected hypodermically every few minutes until the patient is out of danger. — DR. W. RAY JONES, in *Am. Bee Jour.*

ELASTIC RESTRAINT IN PLEURISY

An elastic abdominal binder, five inches wide, covering the epigastrium and the ribs and costal cartilages below the sternum and tight enough to restrain the movements of the lower chest is the most comfortable device for treating pleurisy.—DR. LOUIS DUNN, in *J. A. M. A.*

CATHETERIZATION

In retention of urine due to an enlarged prostate, when other methods fail, a coudé or bicoudé catheter can almost always be introduced.—*Urologic & Cutaneous Review.*

MILK INJECTIONS FOR CARBUNCLES AND BOILS

Milk injections are the best treatment for carbuncles. The favorable effect, if any, is prompt. If there is no improvement after 2 to 4 days, surgical treatment should be used. The same suggestions apply to furunculosis. — DR. WEIRAUK, in *Ohio State M. J.*

AUTOCONDENSATION IN INSOMNIA

Put your sleepless patient to bed on an autocondensation pad connected to the diathermy machine and turn on the current. When he is asleep, turn it off.—DR. CHAS. E. STEWART, of Battle Creek, Mich.

QUININE AND ULTRAVIOLET

Quinine sensitizes the body to ultraviolet irradiations, and if a patient who is taking quinine is given the same dose that other people receive safely he will almost surely be severely burned. It is well to inquire as to this point before giving ultraviolet treatments.—DR. J. C. ELSOM, of Madison, Wisc.

SURGICAL TREATMENT OF CANCER

Surgery alone rarely cures cancer. Radium and x-rays give good service, alone or with surgery.

In order to offer prospects of surgical cure, the case must be operative (no metastases must be present); the tumor and the entire drainage area must be radiated prior to operation; resection of the tumor must be free; and a course of radiation must be given after the operation.—DR. GLENVILLE GIDDINGS, of Atlanta, Ga.

ULTRAVIOLET RAYS IN ACNE

In treating acne, use the water-cooled ultraviolet rays first, giving a massive dose —to full second-degree erythema. Follow this with general irradiation with the air-cooled lamp.—DR. LYNN B. GREEN, of Kansas City, Mo.

INTRADERMAL SMALL POX VACCINATION

Intradermal vaccination against small pox, with a vaccine diluted 1:80 or 1:100 avoids the danger of secondary infection and is especially valuable in patients with eczema, an exudative diethesis or any chronic skin condition. — DRS. BUSSEL and STANKIEWICZ, in *Rev. franc. de Pediat.*

CONDURANGIN IN GASTRIC ULCER

Condurangin has been recommended for the treatment of gastric ulcer and gastritis. The adult dose is 1/10 to 1/4 grain, three times a day.

DIATHERMY IN SINUSITIS

In cases of subacute or chronic sinus disease adequate drainage should first be secured.

For using *indirect diathermy*, seat the patient on an autocondensation pad attached to one of the d'Arsonval terminals and strap the other terminal to your own hand, applying the fingers of that hand over the nose and sinuses.—DR. J. C. ELSOM, of Madison, Wis.

EARACHE DROPS

℞

Anesthesin	gr. v (0.325)
Phenol	gtt. ii (0.130)
Ol. Menth. Pip.	gtt. x (0.650)
Glycerin	ʒ ii (8.000)

M. et. sig.: Two or three drops in the ear as required for pain. Better if used warm.—DR. F. B. KIRBY, of Chicago.

Current Medical Literature

POLIOMYELITIS SERUM

Drs. Edward C. Rosenow and Allen C. Nickel, of the Mayo Clinic, have treated 1,113 patients suffering from poliomyelitis with poliomyelitis antistreptococcus serum and have studied the results with the greatest care. Their report, including a number of case reports, appears in *A.J. Dis. Child.* for January, 1927, and their conclusions are as follows:

Altogether, the results in 1,113 patients with poliomyelitis who received serum and in 278 control untreated patients are elucidating. The mortality rate was found to be much lower in the treated than in the control group, especially when the serum treatment was begun early, even if there were bulbar symptoms. This was true in each of the four age groups (up to 5 years, from 6 to 10, 11 to 15, 16 years and more), in each of the five years from 1921 to 1925, as well as in each epidemic studied.

The incidence of residual paralysis was also much lower in the treated than in the control group, especially in those patients who received serum before or soon after slight paralysis had developed. The mortality rate and the incidence of residual paralysis in the control group were not abnormally high, and corresponded closely to those untreated patients whose cases are reported in the literature.

The incidence of the more severe initial symptoms, the average cell count, and the incidence of initial bulbar types of the disease were somewhat higher in the treated than in the control group. The age incidence was about the same in the two groups. The good effects of the serum occurred independently of spinal drainage. The results in the patients treated by others are in agreement with our results in this and in previous studies, as regards mortality rate, incidence of residual paralysis, and bedside impressions concerning early good effects of the serum. The number and variety of the patients treated are sufficient, and control observations are adequate, to justify the conclusions that the poliomyelitis, antistreptococcus serum is of value in the treatment of acute anterior poliomyelitis.

The serum used possessed the power of neutralizing the toxic material contained in cultures of the streptococcus, as measured by intracutaneous injection; it diminished the infective power in vitro of the streptococcus as measured by intracerebral injection; and it cured rabbits inoculated intravenously with the streptococcus, properties not possessed by normal horse serum. Some of the batches of serum neutralized the virus in vitro, and protected monkeys against poliomyelitis in the forced experiment by intracerebral inoculation of virus. Rabbits have been immunized against intracerebral inoculation of the streptococcus by the methods used in the preparation of the serum in horses; hence the curative action noted clinically would seem attributable to the specific antibodies contained in the serum, and not to nonspecific or foreign protein effects.

EPHEDRINE

An interesting study of ephedrine is contributed by Professor Janse, in *Klin. Wchnschr.* for December 17, 1926. The stalks of *Ephedra vulgaris* have been used more than a thousand years, by the Chinese, as a diaphoretic, analeptic and sedative in cough. The active principle, ephedrine, was isolated in 1887 by Nagai. Its chemical constitution is similar to that of epinephrin.

The alkaloid melts between 38° and 40°C, and is levo-rotatory. The hydrochloride is easily soluble in water. The solution may be sterilized without decomposition, and is not affected by air and oxygen. It is much more stable than epinephrin solutions.

The pharmacology of ephedrine has been investigated by Chen and Schmidt (*J. of Pharm. & Exp. Therap.*, 1924, No. 24); also by Nagel (*Archives f. exp. Pathol. u. Pharmakol.* 110: 129, 1925). Its pharmacologic action is similar to that of epinephrin, although not exactly the same. Like epinephrin, it acts as a mydriatic after 40 to 50 minutes. The duration is approximately 25 hours. It produces a blood pressure rise. It does not act like epinephrin on the small intestine: Epinephrin paralyzes; ephedrine stimulates. Ephedrine also stimulates the tonus of the uterus, producing contractions. In rabbits, diuresis was observed promptly after the use of ephedrine.

Both ephedrine and epinephrin are sympathicotropic, presumably stimulating the nerve endings of the sympathetic, and at the same time, the smooth muscles. The direct action of ephedrine on the smooth muscles is particularly evident on the small intestines where it seems to overshadow the action on the sympathetic nerve endings.

The toxicity of ephedrine is much less than that of epinephrin. The minimum fatal dose in rabbits is 50 milligrams per kilogram bodyweight. The main advantage over epinephrin, however, is the longer duration of action, which, for instance on the blood pressure, amounts to several hours, and its undiminished action by absorption through the intestinal canal. In other words, it is effective when given by mouth.

All these properties are welcomed by the physician at the bed side. The author tried ephedrine obtained from Merck, clinically, by mouth ard subcutaneously, in healthy

and weak individuals, during the past year. The blood pressure and frequency of pulse were used as indicators for the action. Experiments were conducted on strong healthy men, in order to find a minimum effective and an optimum dose by subcutaneous, intramuscular and intravenous injections. The injections were made in the morning on an empty stomach. Doses ranging from 0.1 to 10 milligrams, subcutaneously and intravenously, had no decided action on the blood pressure, pulse frequency and respiration. Optimum effect was obtained from 40 milligrams, intramuscularly. This dose produced a decided blood pressure rise within fifteen minutes, reaching its peak 45 minutes after the injection. The blood pressure rise was 35 to 50 mm. of mercury. The maximum blood pressure rise lasted usually two hours, and then gradually returned to normal, after a total of three or four hours. Doses of 50, 60 or 70 milligrams did not raise the blood pressure any more than the 40 milligram dose. A rapid pulse was observed towards the end of the ephedrine action except in two cases; one in which there was no increase in pulse frequency, and another in which the increase occurred at the same time as the maximum blood pressure rise.

Intravenous injections of ephedrine, in doses of 25 to 50 milligrams, produced a rapid blood pressure rise within the first minute, obtaining its maximum within the first three minutes, and subsiding completely after 15 to 30 minutes. The pulse ratio remained unchanged. The respiration in all these experiments was, as a whole, not effected. In the intramuscular injections, there was now and then a slight slowing after twenty minutes, lasting only a few minutes. In no case were there any side actions of any kind.

The ephedrine was also given in tablets and in solution, by mouth, in 50 milligram doses. Its greatest advantage over epinephrin is its efficiency by mouth. These 50 milligram doses orally were exactly equivalent in action to the intramuscular injections. The blood pressure rose within the first 15 minutes about 20 mm., gradually increasing to a maximum of 35 to 50 mm. within 45 to 60 minutes. It returned to normal within four hours. Larger doses of 60 to 80 milligrams orally did not produce any higher blood pressure rise. The action on pulse frequency was the same as by intramuscular injection. There were no reactions in the stomach or intestines from these doses.

The optimum dose for intramuscular injection is 40 milligrams, and that for oral administration, 50 milligrams, in healthy, strong men with normal circulation and vasomotor tonus. Investigations were conducted to find whether this was the state in patients suffering from circulatory weakness, bronchial asthma and other conditions in which epinephrin has been found of benefit.

Chen and Schmidt (loc. cit.) report good results in acute circulatory distrubances, following shock. In our clinic, we have obtained good results in cases of hypotonus (Martini and Pierach, *Klin Wchnschr.*, 1926, Nos. 39 to 40). By giving ephedrine in doses distributed over the day, the low blood pressure was temporarily brought up to about normal, but our experience with these cases is still too scanty to pass judgment upon its action on the condition, as a whole, of the patients. It must be remembered that it is in just such cases that the use of ephedrine in sufficient doses may cause side actions, such as palpitation, fear, trembling, and a feeling of heat.

Ephedrine would be expected to be of value in the future also in vasomotor weakness in various infectious diseases.

Our observations in bronchial asthma are not entirely concluded. Our experience with ephedrine is similar to that of Pollak and Robitschek (*Wiener Klin. Wchnschr.*, 1926, No. 26), in that we have observed a rapid disappearance of the asthmatic condition from doses of 50 milligrams, three times a day. We have, nevertheless, had a few cases of bronchial asthma where ephedrine was inefficient, but these cases also were resistant to epinephrin and asthmolysin.

We are of the impression that ephedrine is as beneficial in bronchial asthma as epinephrin. but that it, like epinephrin, does not produce results in all cases. It seems to us that oral administration of ephedrine is of great importance in bronchial asthma as compared to epinephrin medication. There is no difference in action, whether it is given intramuscularly or orally in these cases. It remains for us to investigate the stimulation of the intestinal muscles with ephedrine. in order to determine whether intestinal atony is an indication for this remedy. Hess reports in the *Munch. med. Wchnschr.*, 1926, No. 41, results similar to ours on healthy, as well as sick individuals.

Abstract translation by CARL NIELSEN.

ACRIFLAVINE, INTRAVENOUSLY, IN GONORRHEA

In *La Semana Med.*, (Argentina) for October 14, 1926, Dr. Gustavo A. Brandon reports his results from the intravenous use of acridin compounds in the treatment of gonorrhea in all stages.

He used first the preparation known as rivanol and obtained fair results, but later, upon trying tripaflavine and gonacrine, he found these to be far superior.* His experience covers more than 3,000 injections of these acridin substances, in more than 200 cases of gonorrhea. All of the cases which he has been able to follow up have been cured or improved.

The dose of tripaflavine (acriflavine) is 5 cc. of a 2-percent solution, injected intravenously every 3 or 4 days. Some patients can be given as much as 10 cc. at a dose, but great care must be used in giving the larger doses.

While the author's experience has been too brief and limited to enable him to speak

*Tripaflavine and gonacrine are identical products and the same drug is known in the United States as acriflavine or neutral acriflavine.—ED.

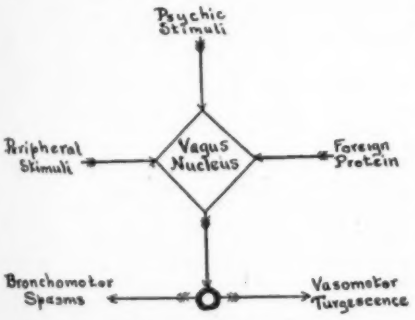
with entire positiveness, he feels sure, nonethe-less, that acriflavine (or neutral acriflavine) is a powerful remedy in the treatment of gonorrhea and that it undoubtedly has a specific germicidal effect upon the gonococcus and gradually destroys these organisms, even when they are buried in the urethral glands.

Because of their elimination in the urine, these drugs succeed in preventing pyelonephritis and cystitis; but they do not act directly in epididymitis, prostatitis and arthritis. They do, however, shorten the disease, diminish the virulence of the gonococci and minimize complications.

Dr. Brandon is convinced that acriflavine or neutral acriflavine, administered intravenously, is equal or superior to any treatment for gonorrhea hitherto introduced, and that it is the ideal method for use in venereal clinics and dispensaries.

ASTHMA AND THE EMOTIONS

In the *Am. J. M. Sc.* for December, 1926, Drs. L. H. Liegler and D. C. Elliott, of Denver, Colo., report 6 cases of asthma which seemed to result directly from emotional disturbances, and illustrate their discussion with electrocardiograms and charts. They also reproduce W. Langdon Brown's "formula for asthma".



Their conclusions which appear to be well substantiated by their studies, are as follows:

1.—Emotions, or psychic stimuli, seem to induce bronchial asthma in a limited number without a history of protein sensitivity.

2.—Patients with a history of asthma associated with psychic stimuli were studied while under the influence of emotion. They demonstrated considerable alteration in the amplitude and regularity of the respiratory curves but little or no changes in rate. The expiratory phase was lengthened and a slight increase in pulse rate was noted. Patients whose asthma was explained on a protein sensitization basis showed no such changes.

3.—In the absence of protein sensitization, or a history of the same, a careful study of the relation between emotions and asthmatic attacks is indicated and should help to explain the disease in a limited number of patients.

GALL BLADDER VISUALIZATION WITH TETRAIODOPHENOLPHTHALEIN GIVEN BY MOUTH

To get satisfactory results in giving tetraiodophenolphthalein by mouth for visualization of the gall bladder the technic is important. That suggested by Drs. Theodore H. Morrison and Maurice Feldman, of Baltimore, in *Ann. Clin Med.* for October, 1926, is as follows:

The patient is given these definite instructions:

1.—Do not take laxative medicines on day previous or during this examination.

2.—Eat the usual breakfast and lunch.

3.—At 6:00 p.m. take half the number of capsules with a meal consisting of two eggs, cereal or vegetables, glass of milk and bread.

4.—Beginning at 8:00 p.m. take two capsules of the dye every fifteen minutes until all are taken; drink plenty of cold water with the capsules.

5.—Lie on right side during this time and for one hour or more afterwards, drinking water frequently.

6.—Return for x-ray examination at 11:00 a.m.

Dosage: — Fourteen to 24 five-grain enteric-coated capsules of tetraiodophenolphthalein are administered, depending upon the weight of the patient. One 5-grain capsule for every 10 pounds is the usual dose —a minimum of 14 is given.

Sixteen hours after the administration of the dye, that is, at 11:00 a.m., a series of films are made of the gall bladder. At this period the normal gall bladder shadow appears most dense. The patient is then allowed to partake of a fatty meal, usually consisting of three slices of bacon, two fried eggs, bread and butter and one glass of milk, and ordered to return one hour following the meal for the final series. Occasionally it is necessary to have the patient return the following day for a thirty-five-hour examination to determine the presence of stasis.

The usual number of films made at each series varies from two to five. The average total number taken on each patient is eight. Failure to arrive at a diagnosis may be due to an insufficient number of films, or films of poor detail. The Buckey diaphragm was used in our series with the routine gall bladder technic.

Normally, the gall bladder is well filled in twelve hours, most distinct and more dense in sixteen hours, and becomes markedly contracted following the ingestion of a fatty meal. The shadow is homogeneous and regular in outline. The fluoroscopic visualization of the gall bladder is an important procedure as it offers data not to be obtained from the films alone. It is an essential part of the routine examination.

This method of giving the drug has almost entirely eliminated the toxic manifestations which have been so troublesome in the past and no alarming symptoms have been noted in any case.

Summing up their conclusions they state that:

1.—The oral administration of tetraiodophenolphthalein is a practical routine office procedure for gall bladder examinations.

2.—Fluoroscopy offers valuable aid in the diagnosis.

3.—Roentgen technic must be carried out in every detail in order to obtain the best results.

4.—This method is reliable and is a distinct advance in Roentgenology offering as it does a direct method of diagnosing gall bladder disease. It is especially valuable in detecting early cases thereby rendering it possible to institute proper treatment early before complications arise.

5.—Cholecystography offers a valuable method of differentiating gall bladder lesions from appendicitis, kidney and ureteral calculi.

6.—A simplified and standardized technic as described is essential for a practical routine procedure in order to obtain uniform results.

7.—The toxic effects can be minimized by giving the dye in divided doses; half with the evening meal and the remainder at fifteen-minute intervals, beginning two hours later.

8.—In a series of 84 clinical gall bladder cases, cholecystography revealed 7 normal cases and 77 pathological. Of the latter, 16 came to operation and the clinical and x-ray diagnosis was verified.

9.—Finally, while this method is extremely valuable and has added much to clear up the diagnosis of gall bladder disease, we should not rely upon it alone. The evidence obtained by cholecystography should always be considered in conjunction with the clinical signs in drawing definite and final conclusions.

SALT SOLUTION AND SODIUM NUCLEINATE IN DEMENTIA PRECOX

It is sometimes interesting to abstract an article several years old, which has been buried in some little-read journal and appears to have failed to arouse the interest which it seems to merit. Such an article is that by Dr. L. V. Guthrie, which appeared in *Dementia Precox Studies* for April, 1918.

In this article the author reported 15 cases of dementia precox which appeared to be cured or greatly improved by repeated intravenous infusions of physiologic salt solution, given at intervals of two weeks and varying in quantity from 400 to 1,000 cc. Five cases are given in detail.

Following this the editor appends a summary of Ishida's original work along the same line, which appeared in the *Am. Jour. of Insanity*, outlining the treatment of 10 cases with highly satisfactory results; and also the investigations of Dr. G. R. Lafora, of Madrid, Spain, who reported, in *Siglo Medico*, vol. LXIV (1917), p. 947, the success attained by giving repeated injections (8 to 28, all together) of 2-percent sodium nucleinate solution in ascending doses, up to 100 cc. Twelve patients were treated in this way, in 9 of whom the full number of injections deemed advisable was given, with marked improvement or social cure in every case. The other three cases were not fully treated, for various reasons.

These suggestions may or may not be of any great or permanent value, but the treatment is simple and harmless and it would seem well worth trying by those who have the care of groups of patients of this sort.

TULAREMIA

"Tularemia is one of the few new diseases of man that has been discovered in the past 15 years, and the only one that has been worked out from the beginning by American investigators. It is an acute infectious disease caused by the *Bacterium tularense*, and is divided into two types; the glandular and the typhoid type. It is transmitted by blood-sucking insects that bite man and animals and is characterized by marked debilitation".

This is the brief and meaty introduction to an article dealing with this new disease by Dr. B. C. Farrand, of Jordan, Mont., appearing in the *Am. J. M. Sc.* for December, 1926, in which he gives full reports of 11 cases he has seen.

A number of blood-sucking insects may transmit the disease, among them the deer fly, rabbit louse, mouse louse, bed bug, wood tick and probably others. Infection may also occur by scratching the skin with thorns or briers which have come in contact with infectious material or, through lesions in the skin, in handling the carcasses of infected animals. Practically all laboratory workers studying the organism have contracted the disease.

The incubation period is from 2 to 5 days. The onset is sudden. In the glandular type there is fever and prostration with more or less local disturbance at the point of infection and in the contiguous lymph glands. The typhoid type is described by its name. In both types the effects are prolonged and there is a loss of appetite, weight and strength.

So far there seems to be no specific treatment. Rest in bed, tonics and local treatment of the glandular cases, meeting symptoms as they arise, seems to be about all one can do.

A typical case report will be of interest:

Case IV.—R. McK., aged fourteen years, a school boy, living 30 miles from Jordan, was first reported, July 19, because of soreness and swelling in right epitrochlear and axillary glands. The patient states that he had been feeling rather bad for the past two weeks, running a little fever, felt worn out, languid and had no appetite. He had not noted the sore finger until the past four or five days when the glands also made their appearance. He had not had any other open sores on his hand and does not remember having injured the finger in any way. He had been with a flock of sheep

since leaving school, but there did not seem to be any sickness or tick paralysis among them; but there had been a number of dead jackrabbits in the vicinity and he had handled a few of them, all of which seemed to be infested with ticks.

On examination, the second finger of the right hand was swollen and slightly tender, tenderness extending down to the palm of the hand and some tenderness on flexion of the finger. The glands of the right epitrochlear and axillary region were swollen and slightly tender. Temperature, 100°; white blood cells, 14,300.

The finger was opened quite widely and a through-and-through drain inserted as a tendon sheath infection was suspected; hot applications were applied to the glands of the elbow and axilla. The finger improved and the glands decreased in size but the patient complained of contiued loss of appetite, tired, worn-out feeling and loss of weight; it was not until this time that tularemia was suspected and a sample of blood drawn and the serum sent to Washington where it was reported positive for Bacterium tularense in dilutions of 1 to 10 to 1 to 1280. Following this the patient was given elixir of iron, quinine and strychnine with quite satisfactory general improvement.

The author's conclusions are as follows:

1.—Tularemia is a recognized disease in the United States.

2.—The common type met with in practice is the glandular type.

3.—It is remarkable for its debilitating effect and its chronicity.

4.—The site of infection is quite similar in all cases.

5.—Glands may either break down or gradually disappear.

6.—Treatment is symptomatic.

VACCINES IN GONORRHEAL VULVO-VAGINITIS OF INFANTS

The treatment of little girls who have acquired a gonorrheal infection of the vagina is a distressing business, at best, and any assistance should be welcome.

In the December, 1926, issue of the *A.J. Dis. of Child.*, Drs. Leon V. Blanco and Nestor M. Villazon, of Buenos Aires, Argentina, state their opinion—backed up by a number of references— that the type of gonococcus found in female children is biologically different from that occurring in adults, in its agglutination reactions and in complement fixation.

The authors have experimented on a number of such cases with special vaccines and have obtained excellent results. Stock vaccines, if prepared from material obtained from a female child, have worked practically as well as autogenous vaccines.

In preparing these vaccines, the accompanying flora are used, as well as the gonococcus. If colon bacilli, staphylococci and streptococci were found in association, the mixture would be about like this: Gonococci, 80 million; colon bacilli, 10 million; staphylococci, 15 million; streptococci, 10 million; total 115 million organisms in each cc. of vaccine. Stronger vaccines are made in the same proportion.

Of these vaccines injections are made every 24 to 48 hours, or at longer intervals, depending upon the reactions produced. The initial dose is 125 million organisms, and the quantity is gradually increased, over a period of several weeks, to 1,500 million.

Eleven cases are reported in some detail, 5 of which received autogenous and 6 stock vaccines. Ten of these patients were entirely cured, clinically and bacteriologically, within 6 weeks; 6 of the 10 being well at the end of the second week.

The article gives full details as to the preparation of these vaccines.

AUTOCONDENSATION AND STATIC FOR THE REDUCTION OF BLOOD PRESSURE

In the *Med. Herald* and *Physiotherapist* for January, 1927, Dr. S. Grover Burnett, of Kansas City, Mo., calls attention to the early work of Dr. W. B. Snow, of New York, in the reduction of high blood pressure by autocondensation and cites the various conditions which have been advanced as causative, from the time of Bright to the present.

The underlying etiologic factors are now believed to be the various infections, hereditary tendencies and endocrine dysfunctions. There is undoubtedly a profound disturbance of metabolism, with retention of nitrogenous wastes and guanidine bases.

The systolic pressure is not a reliable index of conditions present, as it may be increased by a considerable variety of causes. The diastolic reading is much more nearly basal and can be depended upon.

Autocondensation seems to be the logical treatment for this condition because, by its use, there is a marked increase in the oxygen present in all the body tissues, with a corresponding stimulation of metabolic processes. The temperature rises from one-half to one degree or more; respiration is deepened; sweating occurs; and the kidneys eliminate more freely.

In applying autocondensation one must know the patient, the machine and the relations between them *thoroughly* if success is to be attained. Too many men expect a piece of apparatus to do their thinking and reasoning for them.

The blood pressure—systolic and diastolic—should be taken before and after each treatment and 24 hours later. It is sometimes higher *immediately* after a treatment, but falls the next day.

Daily treatments should be given until a fixed pressure is reached for 3 or 4 days. This should be followed by the leydenized Morton wave current from the static machine, with the wave electrodes placed over the kidneys, spleen, liver or chest, and a spark gap of 7 to 12 inches. A small machine will not do the work.

The negative ground from the base of the jar gives a mild, soothing current with low

spark impact; from the top of the jar, a slower spark frequency with greater impact; when the patient, on the insulated stand, is connected to the top of the positive jar and the negative is grounded we get the hardest spark stroke and the deepest penetration that the machine can give.

The high frequency current is needed to start the process of restoration to normal and the high tension current to finish it. You must know physiology and the effects of the various currents upon it to get results.

The diet should be well balanced and moderate, but not to the point of starvation. Limitation or exclusion of salt from the food is the most important point.

MAGNESIUM SULPHATE INTRAVENOUSLY IN ECLAMPSIA

Intravenous injections of magnesium sulphate have been used by a number of obstetricians for controlling the symptoms and relieving the toxemia of eclampsia, and Drs. Lazard, Irwin and Vruwink, of Los Angeles General Hospital (Calif.) have collected a series of 142 cases, in and around Los Angeles, where it was used and have studied the results very carefully, reporting them in the *Am. J. Obst. and Gynec.* for July, 1926.

They divided the cases into three types; (1) True eclampsia, where the symptoms appear to be due solely to the toxemia of pregnancy, with no antecedent kidney disease and a practically normal blood chemistry; (2) Nephritic eclampsia, which is merely nephritic uremia in a pregnant woman. These cases have had previous kidney symptoms, show large quantities of retention products in the blood and are prone to show coma and delirium; and (3) cases where eclamptic toxemia is added to a mild, chronic nephritis.

Another division separates those who have symptoms of preeclamptic toxemia without convulsions from those whose seizures come on before, during and after labor.

This series contains 45 of the preeclamptic cases, all of whom showed high blood pressure (150 to 240 mm.), albuminuria and casts, and edema or headache or both. Of these only 6 developed convulsions, and 4 of these had had but one injection of magnesium sulphate. Thirty patients had spontaneous deliveries and 15 received surgical assistance. Thirty-four living babies resulted.

Of 103 patients who had one or more convulsions there were 50 antepartal, 25 intrapartal and 28 postpartal eclampsias. The corrected mortality was 9 percent (as compared with 36 percent by other methods of treatment). Including the 38 preeclamptic cases which had no convulsions we have a series of 138 cases, with a corrected mortality of 6.5 percent.

Of the patients who had convulsions, a number were enabled, by means of the magnesium sulphate injections, to go on in safety for from a few days to several weeks and come to spontaneous delivery.

The effects of the magnesium sulphate are due to its sedative, anticonvulsive and eliminative properties. The tissue fluids are drawn into the blood stream by osmosis, thus reducing the edema, and the increase in the blood fluids stimulates diuresis, overcoming acute kidney block and reducing toxemia. The coma clears up because of the reduction of cerebral edema. The injections did not work so well in cases where other measures (gastric lavage, hot packs, phlebotomy, etc.) had been used.

The routine followed in the Los Angeles General Hospital is to give all preeclamptics with a blood pressure of 150 or over an intravenous injection of 20 cc. of a 10-percent solution of magnesium sulphate; take the blood pressure twice a day; and repeat the injection if the pressure does not come down. Eclamptics receive a similar injection as soon as possible after the first convulsion and subsequent injections every hour until the convulsions are controlled. If the patient is comatose or in a semicomatose delirium, with blood pressure falling, give 20 grains of chloral hydrate and 40 grains of sodium bromide, *by rectum*. Cesarean section is done only for absolute *obstetric* indications—never as a treatment for eclampsia. After delivery the blood pressure is taken daily and magnesium sulphate injections given if it rises.

Reactions from the injections have been few and mild and have cleared up promptly.

As a result of their thorough and intensive study of these cases, the authors arrive at the following conclusions:

1.—Intravenous administration of magnesium sulphate in sufficient dosage will prevent the development of convulsions and will control them after their onset.

2.—A series of eclamptics is presented which, under the intravenous magnesium sulphate treatment, shows a corrected mortality of 9 percent.

3.—The true nephritic type shows the greatest mortality.

4.—Surgical interference in the eclamptic should be limited to assisting labor (in the second stage) on definite *obstetric* indications.

5.—Cesarean section in the eclamptic is contraindicated except in the presence of absolute obstetric indications.

THE VITAMINES

In a paper on Recent Advances in Nutrition Research, read by Dr. Helen S. Mitchell, of Battle Creek, Mich., before the Chicago Medical Society, December 15, 1926, and reported in the *Bul. Chicago M.S.* for Jan. 1, 1927, the functions of the various vitamines were outlined.

Vitamine A is a factor in eye diseases and in scurvy. Its lack may also predispose to infections of the lungs and sinuses, particularly the mastoid. It can be stored in the human body, probably in the liver, and drawn upon as needed. It is present in cod-

liver oil, which is perhaps, the reason why that substance is useful in preventing colds.

A lack of *Vitamine B* causes loss of appetite, deficient digestion and sluggishness of colon motility, with constipation. This substance cannot be stored in the body and must be supplied at all times.

Vitamine C is associated with the deficiency diseases such as scurvy and beri beri. Its lack also causes some of the shifting joint pains which are frequently attributed to rheumatism.

Vitamine D presides over the metabolism and retention in the body of calcium and phosphorous, and a lack of it gives rise to rickets. It is this vitamine which seems to be interchangeable with sunlight and to replace it to some extent, when deficient. It is present in large quantities in cod-liver oil and can be stored in the system.

Vitamine E is the most recent addition to the list and is not fully worked out as yet, but experiments show rather definitely that its presence is necessary to reproduction.

METHENAMIN, INTRAVENOUSLY, IN TYPHOID

In *Le Monde Médical* for October 1, 1926, Drs. Chalier and Grandmaison report that they have had good results from the intravenous use of solutions of methenamin ("formine"; hexamethylenamin) in 160 cases of typhoid fever. The patients felt better and were in better general condition, and complications, especially hemorrhage, were extremely rare.

They feel that, while this treatment should not be used to the exclusion of all others, it has a distinct and demonstrable place in the treatment of typhoid fever. They have failed to discover any real harmful action upon the kidneys and feel that, even when albumin is present in the urine in small amounts, it is not a contraindication to the use of this remedy.

BARBITAL SODIUM AND PARALDEHYDE IN COCAINE POISONING

Following up the experiments previously reported (See CLIN. MED., Nov. 1926, p. 831) on the management of cocaine poisoning by intravenous injections of hypnotics, Dr. A. L. Tatum and K. H. Collins, of Chicago, report their results in treating a monkey poisoned with cocaine in *Archiv. Int. Med.* for September, 1926, arriving at the following conclusions:

1.—Acute cocaine poisoning in the rabbit, dog and monkey has been proved to be readily and satisfactorily treated by appropriate hypnotics (barbital sodium with paralydehyde) administered intravenously.

2.—A proper dosage of the hypnotic, given intravenously, causes immediate cessation of cocaine convulsions in the monkey, dog and rabbit, and maintains depression for a time sufficient to allow more or less complete detoxication of the cocaine to occur.

3.—Manifestations of cortical stimulation must be absolutely controlled by a proper dose of the hypnotics; otherwise, the cerebral stimulus from cocaine so affects the cocaine-poisoned medullary centers as to lead to their complete failure.

4.—The higher the type of animal employed the greater is the difference between the minimal lethal dose in the untreated animal and the dose recovered from when treated by the hypnotic drug method.

5.—We believe that man, being of a still higher order, would therefore be still more subject to successful treatment of acute cocaine poisoning by the use of the proper hypnotics.

TREATMENT OF STERILITY WITH X-RAYS

Certain cases of sterility resist all ordinary methods intended for their relief, and therefore the suggestions made by Dr. I. C. Rubin, of New York, in *Am. J. Obst. and Gynec.* for July, 1926, should be helpful.

In 12 cases of sterility, associated with amenorrhea or oligomenorrhea, Dr. Rubin applied x-ray irradiations, together with tubal insufflation (in 2 cases) and endocrine therapy where indicated, following which 9 of the women became pregnant. (75 percent, compared with 5.5 percent pregnancies in untreated cases.)

The doses of x-rays recommended by Borak and used by Rubin in various types of pelvic cases are: For amenorrhea, 5 to 10 percent of the skin erythema dose; for oligomenorrhea, 10 to 15 percent; for reducing too-free bleeding, 15 to 35 percent; and for sterilization of the patient, 25 to 50 percent of the erythema dose.

The 12 cases are reported in full and carefully analyzed, and the doctor sums up his results as follows:

1.—Habitual amenorrhea is associated with sterility in about 5 percent of cases.

2.—Pregnancy takes place in about 5.5 percent of the untreated cases.

3.—In 9 out of 12 cases treated with mild doses of x-ray, pregnancy resulted (i.e., 75 percent of the treated cases). Only one of these patients aborted. The rest carried to full term and gave birth to normal children. Among seven of the latter personally delivered there were six males and one female.

4.—X-ray irradiation of the ovaries resulted in restoration of the menses in 11 out of 12 cases of amenorrhea.

5.—X-ray irradiation of the hypophysis area and the thyroid appears to have an adjuvant value. Two of the pregnant cases and two of the nonpregnant cases received hypophyseal irradiation. One of the pregnant cases also received thyroid irradiation.

6.—Peruterine tubal insufflation and endocrine therapy are additional aids to the therapeutic action of the x-rays in cases of amenorrhea associated with sterility.

7.—As the ovaries were found to be definitely enlarged before treatment in 8 of the 9 successful cases treated with x-rays, careful examination with regard to this

point may prove of aid in selecting the cases of amenorrhea associated with sterility suitable for ovarian stimulation. When no ovarian enlargement is found, irradiation to the hypophyseal area or the thyroid, etc., may be more advisable and should certainly precede irradiation of the ovaries.

PULMONARY TUBERCULOSIS IN INFANTS TREATED WITH ULTRAVIOLET RAYS

Drs. Henry J Gerstenberger and Charles W. Burhans, of Cleveland , O., have treated a number of cases of extensive pulmonary tuberculosis in infants by ultraviolet irradiations, in addition to other measures, and are of the opinion — as stated in the *Am. J. Dis. Child.* for January, 1927 — that, while rest, cod-liver oil, etc., were of value in improving the nutrition of these patients, they were not entirely responsible for the successful outcome. They believe that the exposure to ultraviolet rays caused a change in the disposition of these patients and made their recovery more consistent and regular. No other radiant energies were used.

They sum up their opinions as follows:

1.—Tuberculous infants showing extensive pulmonary infiltration, even with cavity formation, may recover. (Seven cases, covering an observation period of from one to two years, are reported.)

2.—It seems from the experience obtained in these infants that pulmonary exudates that are massive in character and lobar in distribution are especially inclined to improve.

3.—The question is raised whether the good results obtained in the type of cases reported is not due principally to the fact that such infiltrations are a part of a beneficial immunologic attack of the body against the tubercle bacillus, rather than they are the results of the local success of the tubercle bacillus.

4.—All of the reported patients in the cases were exposed at least three times a week to the quartz mercury arc lamp, and it is our impression that they were benefited thereby. It is certain that no harm was done.

The seven cases are reported in full detail, with clinical charts and roentgenograms, making an interesting and valuable contribution.

PARAFFIN IN TREATING BURNS AND DENUDED AREAS

Some writers have attacked the paraffin treatment of wounds as being surgically unsound, but in *Northwest Med.* for May, 1926, Dr. Donald V. Trueblood, of Seattle, Wash., defends it in an able and scientific manner, declaring that it is of great value in treating not only burns but also denuded surfaces of whatever character.

He explains how the discharge that sometimes accumulates under such a dressing is rarely septic or dangerous and is nature's effort at healing and the establishment of normal conditions.

Paraffin should never be applied over a wound containing necrotic tissue or one that is seriously septic. Debridement should be thoroughly performed and followed by 24 hours of disinfection with some mild antiseptic, such as boric acid solution, picric acid or chloramine (chlorazene). After this the paraffin will keep the wound clean. In a sterile wound, such as a fresh second-degree burn, it may be applied directly.

This type of dressing usually relieves pain promptly, protects the wound from infection, trauma, dehydration and heat radiation and enables secondary dressings to be made with a minimum of distress to the patient and of disturbance of the wound. It tends to prevent exuberant granulations and prepares a satisfactory field for skin grafting, if this proves to be necessary.

Dr. Trueblood suggests that, if the paraffin is sprayed upon the wound, the apparatus should at first be held at some distance, and gradually brought nearer as the coating accumulates. The film of paraffin should be 2 or 3 mm. thick and should extend at least an inch beyond the edge of the wound. It may be held in place by bandages or adhesive strips and should be changed daily, or oftener if seropus accumulates in quantity. When changing the dressing, remove the paraffin; blot the wound with cotton pledgets moistened with boric acid solution; dry and apply a fresh coat of paraffin.

If these suggestions are carefully carried out, Dr. Trueblood believes that no fault can be found with this method, but that it will give highly gratifying results.

New Books

KOLMER: CHEMOTHERAPY AND SYPHILIS

PRINCIPLES AND PRACTICE OF CHEMOTHERAPY WITH SPECIAL REFERENCES TO THE SPECIFIC AND GENERAL TREATMENT OF SYPHILIS. *By John A. Kolmer, M.D., Dr. P.H., D.Sc. (Hon.), Professor of Pathology and Bacteriology in the Graduate School of Medicine. University of Pennsylvania. Illustrated. Philadelphia and London: W. B. Saunders Company.* 1926. *Price* $12.00..

The aims of chemotherapy are hundreds of years old, but its clinical practice is so new that many physicians are familiar with it only by name. Briefly, it is the treatment of disease by chemical compounds which have a specific action in destroying invading parasites without harming the tissues of the host. It may be applied by parenteral administration, as in the treatment of syphilis, or locally, as in the use of antiseptics in the treatment of wounds.

It was time that someone should bring together and correlate the mass of literature on this broad subject which has accumulated during the past decade or two, and we know of no one better qualified for this large undertaking than Dr. Kolmer, whose extensive laboratory and clinical experience fits him to speak with authority on this subject.

The book is divided into ten parts: Principles of Chemotherapy; Chemotherapy in Bacterial and Mycotic Diseases; in Trypanosomal Diseases; in Spirochetal Diseases other than Syphilis; in Protozoan and Metazoan Diseases of Other Types (such as malaria); in Diseases of Doubtful or Unknown Etiology (such as anemia); Infection, Immunity and Pathology of Syphilis; Pharmacology and Toxicology of Antisyphilitic Medicaments; Methods for Administering Antisyphilitc Medicaments; and Prophylaxis, General, Specific and Non-specific Treatment of Syphilis. There are a number of chapters in each part (79, in all), filling 1060 pages of text.

The chapters are logically arranged and at the end of each one is a very complete bibliography of the subject treated, running, in some cases, to more than 200 references, so that the earnest student can cover practically all of the literature in English and most foreign languages.

This is no hurried review of the subject of chemotherapy, but an exhaustive treatise, going into full details of the performance and results of complicated and extensive laboratory and clinical research. Where illustrations will faciliate the understanding of the text, they are used.

The paper and type are good, so that the book is easy to read. Bold-face and italic subheads facilitate reference. The index occupies 45 pages, two columns to the page.

This volume should be included as a reference book in every medical and scientific library that attempts to keep even reasonably complete and up to date. It is indispensable to syphilogists and of the utmost importance and value to every physician who is treating syphilis or any of the other diseases requiring parenteral medication, and is the only complete and authoritative work on the subject with which we are familiar.

VAN LEEUWEN: ALLERGIC DISEASES

ALLERGIC DISEASES. Diagnosis and Treatment of Bronchial Asthma, Hay-Fever and Other Allergic Diseases. *By W. Storm Van Leeuwen, M.D., Director of the Pharmaco-Therapeutic Institute, Leiden, Holland. Philadelphia, London & Montreal: J. P. Lippincott Company.* 1925. *Price* $4.00.

This monograph, by a capable and painstaking Dutch investigator, is of considerable importance, as it embodies a number of new ideas which have been worked out by the author.

After studying Walker's work with allergens, in the United States, in 1819, Dr. Van Leeuwen returned to his own country and began working with specific skin tests and desensitization. But he found that the conditions there present were different from those here and his results not so satisfactory.

In studying out the reasons for these differences he has arrived at some interesting conclusions. He feels sure that allergy and anaphylaxis are quite different, because the symptoms differ more or less and allergy may be inherited and appears on first contact with the offending substance; while anaphylaxis is not heritable and must be developed by repeated contacts with the protein causing the symptoms.

In testing for sensitiveness he uses skin reactions rather than intradermal injections, believing that the latter are not specific—though they do show the presence of the *allergic state*—and that they are not without serious dangers; i.e., "general reactions", with urticaria, asthma, syncope and collapse.

He observed that some patients had asthmatic attacks only in certain houses; and upon preparing extracts of various samples of house dusts and making skin tests with them he found many persons sensitive to these allergens.

Going further, he found that in certain portions of Holland, especially those that were low and swampy, asthma was especially prevalent, but that patients from those districts who went to the higher parts of Switzerland promptly became free from asthmatic symptoms, only to develop them again at once upon returning home. Upon

the basis of these studies he feels confident that a considerable number of people are sensitive to some substance or substances of unknown nature, present in the air, for which he uses the pre-Pasteurian name of *miasms*. Experiments have demonstrated that, if allergics of the "climate" type will pass a part of every day in a room so constructed as to exclude "miasms", they will be almost or entirely free from attacks.

In the matter of treatment, Dr. Van Leeuwen is inclined to place more reliance upon the use of nonspecific desensitization than upon the use of specific proteins. For this purpose he uses minute and gradually increasing injections of tuberculin (Koch's "T.O.A."); milk, in ascending and descending doses; peptone, used in the same way; and suspensions of sulphur in olive oil. All of these have given good results in a number of cases. He believes that best results will be obtained by combining the mountain climate—natural or artificial— with the anti-allergic treatment.

The book is obviously the result of extensive, diligent and careful research work and, as such, is entitled to respectful consideration. The full technic of his experiments is given, as well as that for the specific and nonspecific desensitization.

This volume appears to be a distinct contribution to the study of a class of disorders which is very little understood at present, and may be studied with profit by every physician in the country. The value of the author's suggestions can be demonstrated, only by time and much experimentation, in which all should join.

HAWK & BERGEIN: PHYSIOLOGIC CHEMISTRY

PRACTICAL PHYSIOLOGICAL CHEMISTRY. A Book Designed for Use in Courses in Practical Physiological Chemistry in Schools of Medicine and of Science. *By Philip B. Hawk, M.S., Ph.D., President of the Food Research Laboratories, Inc., New York City; and Olaf Bergein, M.S., Ph.D., Assistant Professor of Physiological Chemistry in the University of Illinois, College of Medicine, Chicago. Ninth Edition, Revised and Enlarged. With Two Full-Page Plates of Absorption Spectra in Colors; Six Full-Page Color Plates and 273 Figures of Which Twelve are in Colors. Philadelphia: P. Blackiston's Son & Co.* 1926. *Price* $6.50.

The new edition of this well known work is considerably enlarged in size by the addition of seven new chapters, covering Physic Chemistry of True and Colloidal Solutions; Adsorption; Putrefaction and Detoxication; The Chemistry of The Blood; Respiratory Metabolism; The Endocrine Organs; and Energy Metabolism, and nine new sections, dealing with Oxidation and Reduction Systems; Photosynthesis; Amino Acids; The Normal Gastric Response to Standard Foods; Dietary Deficiencies and Vitamins; Ultraviolet Radiation; Rickets; Ketosis; and Manipulatory Procedures in Metabolism Experiments. These additions bring the book up to date.

There are nearly 100 new illustration, including two color plates, and many of the old ones have been improved.

The subject is very well covered and full, detailed directions are given for performing every experiment suggested.

The book is well made and printed on good paper from clear type.

A practical working manual for laboratory workers in physiologic chemistry.

LORAND: POOR MEMORY AND ABSENT-MINDEDNESS

DEFECTIVE MEMORY ABSENT-MINDEDNESS AND THEIR TREATMENT. *By Arnold Lorand, M.D., Carlsbad, Czecho-Slovakia, Author of "Old Age Deferred", "Health Through Rational Diet" Etc. Philadelphia: F. A. Davis Company.* 1926. $3.00.

The distinguished author of "Old Age Deferred" and several other works dealing with the development and conservation of the human organism in general has here set down his ideas regarding the causes and treatment of a class of conditions which is all-too-common.

Dr. Lorand believes that absent-mindedness is a variety of poor memory, and that the latter, when not due to obvious intellectual incapacity, results from lack of attention and concentration.

Regarding this inattention and consequent forgetfulness, he says that it is frequently due to remediable physical causes, such as circulatory and metabolic disturbances, thyroid deficiency, cerebral arteriosclerosis, digestive disorders, diseases of the nose and ear, faulty nutrition and various other conditions.

He gives a clear and logical discussion of the mechanism of memory and detailed, specific and practical instructions for strengthening this faculty.

This book is superior to any "course in memory training" that we have seen and is heartily recommended to our readers.

ROBINSON: PRACTICAL PSYCHOLOGY

PRACTICAL PSYCHOLOGY. Human Nature in Everyday Life. *By Edward Stevens Robinson, Associate Professor of Psychology, The University of Chicago. New York: The Macmillan Company.* 1926. *Price* $1.80.

Very few persons make the study of psychology a life work; and yet a knowledge of the principles of that science can be enormously useful to us in conducting our daily lives.

The object of this book is to present those facts which are brought out by an intensive study of psychology in a form which will be readily understood and can be used by any person who has the equivalent of a high-school education. It is, in fact, a textbook intended for the use of senior high-school students and as an introduction to college classes in psychology.

The style is clear and straight-forward without being too distressingly elementary. At the end of each chapter is a list of "problems" intended to test the extent to which the student can apply the lessons taught and also a list of references for further reading and study.

Every physician should fully understand the essentials of psychology; and to such as have lacked training in this subject the present volume can be cordially recommended.

HOWE: CHEMISTRY IN THE WORLD'S WORK

CHEMISTRY IN THE WORLD'S WORK. *By Harrison E. Howe, Editor, Industrial and Engineering Chemistry. Illustrated. New York: D. Van Nostrand Company.* 1926. *Price* $3.00.

In this volume, Howe has attempted to "emphasize in language easily understood by those not technically trained, the part chemistry has played in assisting in the attainment of our present level of civilization".

In a series of sixteen interesting chapters, he has considered many phases of our environment, pointing out at every step the part which the physical and chemical sciences have played in making man's life easier and more pleasant. Proceeding in what appears to be an informal rambling style, he touches upon industry after industry, indicating briefly the developments—all products of research—which have brought them to their present high standard. The field covered is so broad that even the technical man will find new points of interest. For the average reader, chemistry in the world's work is a fit companion for "Creative Chemistry".

D. L. T.

WAKSMAN & DAVISON: ENZYMES

ENZYMES. Properties, Distribution, Methods and Applications. *By Selman A. Waksman, M.S., Ph.D., Associate Professor of Soil Microbiology, Rutgers University, and Wilburt C. Davison, M.A., M.D., Associate Professor Pediatrics, John Hopkins University, School of Medicine. Baltimore: The Williams & Wilkins Co.* 1926. *Price* $5.50.

The chemical reactions associated with life processes are so predominantly catalytic in nature that a better understanding of this type of reaction must precede any marked insight into the mysteries of the living organism. In the center of interest today are the enzymes—catalysts produced by living cells.

Observations regarding enzymes have for the most part been empirical and uncoordinated; moreover, due to the complexity of the subject and the frequent failure to exclude important sources of error, many statements are completely untrustworthy.

The aim of the present volume is to present, from the standpoint of the worker in the biological and bacteriological sciences, the most important pertinent material to be found in the modern literature. An introductory chapter sketches the development of our ideas concerning the nature and the source of enzmyes. A table briefly summarizes valuable information regarding the products produced by the action of some sixty enzymes. Chapters immediately following consider, in more detail and from the standpoint of physical chemistry, the mechanism of enzymatic changes, and the influence of environment upon these. Particular attention is paid to the relation between hydrogen ion concentration and optimum action.

Section B deals with the distribution of enzymes, separate chapters being devoted to those found in the animal body, in plants, and in microorganisms. In the 125 pages of section C simple methods are described for the isolation and study of many of the manifold uses which have been made of enzymes previously mentioned. The next portion of the volume serves to indicate the enzymatic reactions since the earliest time. Many interesting suggestions of further possible industrial applications are offered. Perhaps most valuable of all for the investigator, is an excellent bibliography containing over 1300 references.

D. L. T.

SCOTT-ELLIOT: PREHISTORIC GEOGRAPHY

THE STORY OF ATLANTIS AND THE LOST LEMURIA. *By W. Scott-Elliot. With Six Maps. London: The Theosophical Publishing House, Ltd. (The Theosophical Press, 826 Oakdale Ave., Chicago.)* 1925. *Price* $2.75.

It is well known to geologists and archeologists that the land and water surfaces of the earth have been and still are constantly shifting, and there is now no reasonable doubt that a great continent once existed where now is the Atlantic ocean. It was, in fact, this continent of Atlantis which gave the ocean its name. A number of highly scientific books have been written demonstrating. from the standpoints of geology, hydrography and comparative zoology and botany that such a continent must have existed in order to explain the present distribution of plants and animals as well as rock formations. Many investigators believe that the sudden subsidence of the continent gave rise to the stories of a flood which are current in the folklore of all lands, as well as in the Hebrew Scriptures.

There is almost equally sound (though less definite) evidence of the same sort for the existence. in pre-Atlantean times, of a great equatorial continent, occupying what is now the South Pacific ocean, which the Englishman, Schlater, called "Lemuria" and Blandford, "Indo-Oceana", the former name being now most widely used. This continent is believed to have been in existence during what the geologists call the Triassic, Jurassic and Cretaceous periods.

In the present volume have been collected a considerable number of the commonly ac-

cepted scientific statements regarding these prehistoric continents, to which have been added many details, obtained by means of occult investigation, including four maps of Atlantis at various stages of its history, and two of Lemuria, as well as descriptions of the animals and half-human—and later wholly human—beings who inhabited them. The occult account of these matters parallels known scientific facts so closely that when the unverified details are reached they sound logical and convincing. In fact, no one can say that they are *not* true, and they explain many things otherwise unexplainable.

Anyone who has a taste for paleontology, physiography and anthropology will find this book and the accompanying large maps very fascinating reading and may gain some ideas which will clear up a number of points which hitherto have been dark.

EINHORN: DUODENAL TUBE

THE DUODENAL TUBE AND ITS POSSIBILITIES. *By Max Einhorn, M.D., Professor of Medicine at the New York Postgraduate Medical School; Visiting Physician to the Lenox Hill Hospital, New York. Second Edition, Revised and Enlarged. Illustrated. Philadelphia: F. A. Davis Company.* 1926. *Price* $3.00.

The duodenal tube is now one of the well-recognized and almost indispensable agencies for the diagnosis and treatment of pathologic processes in the gastrointestinal canal, and every physician who does any of this work at all should be familiar with its use and possibilities.

As this instrument is a development of the past decade there is no superfluity of literature on its history and manipulation, so that this little book, by the foremost authority on the subject, fills a distinct need.

The text is clearly and simply written and well illustrated, so that all essential points in diagnosis and treatment are well brought out.

Mechanically the volume is excellent. Large type, heavy leading and good paper make it easy to read.

Indispensable to gastroenterologists and a valuable addition to the library of the practitioner.

BLACKER: BIRTH CONTROL

BIRTH CONTROL AND THE STATE. A Plea and a Forecast. *By C. P. Blacker, M.C., M.A., M.R.C.S., L.R.C.P. New York,* 681 *Fifth Avenue: E. P. Dutton & Company.* 1926. *Price* $1.00.

Here is a brief, sound, unbiased and logical statement of both sides of the birth control problem with an enlightening discussion of the many and various factors which enter into and turn upon its solution.

Admitting that we now know of no completely reliable and ideal contraceptive measure, it is indisputable that the methods now in use by people of the better classes, in all countries, are reasonably effectual, and the benefits to be gained by disseminating the knowledge we have among the women of the lower classes seem to be obvious.

The subject is considered, not only from the standpoint of the individual, but also from those of the race and the state; in its biologic, sociologic and political aspects. A plea is made to all medical men to investigate the matter fully and then take the needed action.

A sane, informatory and valuable little treatise on a moot subject, and one which we heartily recommend to the consideration of all of our readers.

DROLET: TUBERCULOSIS HOSPITALIZATION

TUBERCULOSIS HOSPITALIZATION. A survey of American sanatoria and hospitals: Growth of sanatorium movement, results of treatment, types of cases, length of stay, cost. Influence of hospitalization upon the tuberculosis death-rate in the United States, Canada, England and Wales, Germany, France, Italy, Holland, Czechoslovakia, Japan, and New Zealand. *By Godias J. Drolet, Statistician, New York Tuberculosis and Health Association. Reprinted from the American Review of Tuberculosis, December,* 1926, *Vol. XIV, No.* 6. *An address delivered in Washington, D. C., October* 5, 1926. *New York,* 244 *Madison Ave.: New York Tuberculosis and Health Association, Inc.*

A brief discussion, largely statistical, of the effect on the progress and mortality of tuberculosis by treating the cases in hospitals and sanatoria.

Of value to all engaged in the institutional treatment of this disease and of interest to all phthisiologists.

HOLLINGSWORTH: GIFTED CHILDREN

GIFTED CHILDREN. Their Nature and Nurture. *By Leta S. Hollingsworth, Ph. D., Associate Professor of Education Teachers College, Columbia University. New York: The Macmillan Company.* 1926. *Price* $2.00.

Much thought and effort has been spent during the last generation in trying to help those children who are physically and mentally below par; but it is only very recently that anyone has appeared to realize that the children who are *above* par also require special handling in order to develop their exceptional powers to the best advantage.

The author of this book begins with a history of the recognition and study of the gifted and proceeds to show how this work is now being carried on by means of mental tests and other exact methods of observation. The bearing of heredity on exceptional talent is considered.

Nor is the practical side of the question overlooked. Several chapters deal with the special educational requirements of gifted

children and suggest methods for meeting them, in the school, the home and in society.

A very interesting and informing work on a subject which is little understood. We heartily recommend it to all classes of teachers and to those who desire to give their children every possible chance for advancement and success.

DENNETT: SIMPLIFIED INFANT FEEDING

SIMPLIFIED INFANT FEEDING. With Eighty Illustrative Cases. *By Roger H. Dennett, B.S., M.D., Professor of Diseases of Children and Director of the Department in the New York Post-Graduate Medical School; Attending Physician in the Babies' Wards of the New York Post-Graduate Hospital; etc. With 14 Illustrations. Third Edition Revised and Enlarged. Philadelphia, London & Montreal; J. B. Lippincott Company.* 1926. *Price* $5.00.

This book is intended for the student of pediatrics and the practitioner. The author has omitted theory so far as possible, and believes that there is much objection to the words "method" and "system" as related to infant feeding. He says. "It is very popular to say that every case is a law unto itself. Such a statement tells nothing and is moreover not true."

The book is well bound and printed and would be a valuable addition to the libraries of the general practitioner and pediatrician.

On the whole the subject of infant feeding is treated in an enlightened manner with the exception of the chapter on "Dry Milk". In this chapter are included a dried milk from which part of the fat has been removed, and other incomplete products, no mention made of the real dried whole milk.

F. J. H.

ADAMS: VERY MODERN HISTORY

REVELRY. *By Samuel Hopkins Adams. New York: Boni & Liveright.* 1926. *Price* $2.00.

We rarely review a novel, but this book, while it bears a thin mask of fiction, is generally recognized by well-informed people as being a fairly accurate account of the inside workings of an administration which is within the memory of all of us. In fact, the fictitious names of the characters are so flimsy a disguise that most of them can readily be called by their real names by anyone reasonably familiar with what has recently been going on in this Country.

The book is stark tragedy from every standpoint. As a story, it pictures the deplorable fate of a small man, personally honest but lacking intelligence, thrust into a job far beyond his powers and entirely surrounded by thoroughly selfish persons who knew exactly what they wanted and purposed to get it by whatever means.

As a picture of things that can and do go on in our National Capitol and of the inner workings of the highest political circles it is appalling and sets one to wondering to what extent all of our national idols had and have "feet of clay".

If the reading of this book serves to stimulate the people of the United States to look more closely into the way things are conducted at Washington and to *take steps to improve conditions*, its publication will have been worth while: Otherwise not; for while it gives proof that our Nation can go on functioning, no matter how great the incompetence and corruption in high places, the purposeless airing of past scandals seems unworthy.

We advise the reading of this volume, in the hope that its revelations will result in salutary action.

MEDICAL CLINICS OF NORTH AMERICA

The September, 1926, number of this well-known and valuable series is the work of the clinicians of Philadelphia, and is particularly rich in practical material, containing such clinics as "Backache in Blood Stream Infection", by Drs. Sailer and Lynch; a presentation of psoriasis, lupus and syphilis, by Dr. John H. Stokes; "Nondiabetic Glycosuria'" by Dr. Leon Jonas; "Chronic Arthritis", by Drs. Klein and Keeler; and a number of others.

The features of the November number are contributed by the staff of the Mayo Clinic and include, "The Use of Diuretics in Cardiac Edema", by Drs. Jacobs and Kieth; "Intravenous Treatment in Uremia", by Dr. Edwin G. Bannick; "Pregnancy and Diabetes", by Drs. Parsons, Randall and Wilder; "Hysterical Paralysis", by Dr. Harry L. Parker; etc.

So familiar is this series to medical students and to practitioners, all over the world, that it seems unnecessary to go more into detail regarding the things to be found in these numbers. They are up to standard—and that is high praise!

The Medical Clinics of North America are issued serially, one number every other month. Per Clinic year (July to May), Paper $12.00; Cloth $16.00 net. Philadelphia: W. B. Saunders Company.

CORSCADEN: HISTORY TAKING

HISTORY TAKING AND RECORDING. *By James A. Corscaden, M.D., Associate in Obstetrics and Gynecology, Columbia University, New York. New York: Paul B. Hoeber, Inc.* 1926. *Price* $1.50.

Physical and laboratory methods of objective diagnosis have advanced rapidly of late, but our success in relieving the complaints and diseases of our patients has lagged far behind. One reason for this is that much more stress has been placed upon objective signs than on the history of the patient—his own story of his complaint.

This little book is intended to give students and practitioners a simple and reason-

ably complete guide to the points which should be brought out in the taking of a history and to suggest a rational method of recording them.

A list of all important points to be elicited in each section of the history is a valuable part of the book.

Every physician needs such a guide as this, particularly the specialists who sometimes forget to consider a patient as a complete human being, and needs to follow it in its entirety in every case. Those who are not using such a method will find this manual helpful and satisfactory.

PAUL: CARRIERS

THE CARRIER PROBLEM. *By K. C. Paul, M. B., B.S., Sometime Research Student in Medicine, University of Madras. With Foreword by David Nabarro, M.D., F.R.C.P. (Lond.), Director of the Research and Pathological Laboratories, The Hospital for Sick Children, Great Ormond Street. London & New York: Humphrey Milford, Oxford University Press.* 1926. *Price* $1.75.

It is now well known that certain persons, themselves healthy, can carry the organisms of various diseases and transmit them to others. This fact is a prominent factor in the solution of various epidemiological studies.

In this little volume of less than a hundred pages, the author has brought together under one cover the salient points regarding carriers of enteric affections (typhoid, etc.), diphtheria, meningitis, pneumonia, streptococcic infections, poliomyelitis, bacillary and amebic dysentery, cholera and other infectious diseases.

Every physician should be in possession of the information contained in this book and it is vitally necessary to the work of city and county health officers and all who are engaged in the practice of preventive medicine.

BRAGDON: OLD TEACHINGS IN A NEW SETTING

OLD LAMPS FOR NEW. The Ancient Wisdom in the Modern World. *By Claude Bragdon. New York: Alfred A. Knopf.* 1925. *Price* $3.00.

It does us all good, from time to time, to get entirely away from the immediate concerns of our daily lives and view the large problems of the universe as philosophical spectators. This Claude Bragdon helps us to do.

In this collection of beautiful and fascinating essays he handles such subjects as: The Gift of Asia; Reincarnation; Time is a Dream; Light as Language; The Ritual of Play; The Eternal Feminine; Release Through Love; and a number of others equally charming.

The style is lucid and poetical throughout and on almost every page are bits like these:

"Health and disease, thought and emotion are communicable, contagious."

"I am as necessary to God as God is necessary to me."

"The man who has built a tower on a hill has done something which everyone may see and admire, but he who has quarried out a mine has only a hole in the ground to show for his labors."

"There is this difference between us and them (the Egyptians): They believed in themselves and in what they were doing; we believe in nothing, not even in ourselves."

"Either we have not suffered enough or we have not loved enough; that is, we have not *lived* with sufficient *inner intensity* to burn with that hard and gem-like flame."

"As the *bigness* of an object to the eye depends not on its actual size but on its *nearness*, so the *immediacy* of events determines for us their *importance*—an empty cigarette case, of an evening, being personally more tragic than the failure of the tobacco crop."

"Humanity is God, refracted, *strained*, so to speak, through time and space—*forms of consciousness.*"

If every one of us would read a book like this now and then—read it slowly and thoughtfully and let our minds range the new fields of speculation which it opens up—we would all be more capable and effective human beings and become more interesting to ourselves and to our associates.

PUBLIC HEALTH SERVICE

ANNUAL REPORT OF THE SURGEON GENERAL OF THE PUBLIC HEALTH SERVICE OF THE UNITED STATES FOR THE FISCAL YEAR 1926. *Treasury Department, Document No. 2976, Public Health Service. Washington: Government Printing office,* 1926.

CHICAGO DEPARTMENT OF HEALTH

REPORT OF THE DEPARTMENT OF HEALTH OF THE CITY OF CHICAGO FOR THE YEARS 1923, 1924 AND 1925. *By Herman N. Bundesen, M.D., Commissioner of Health. Chicago,* 1926.

BIRTH, STILLBIRTH, AND INFANT MORTALITY STATISTICS

BIRTH, STILLBIRTH, AND INFANT MORTALITY STATISTICS FOR THE BIRTH REGISTRATION AREA OF THE UNITED STATES, 1924. *By Department of Commerce, Bureau of the Census. Tenth Annual Report. Washington: Superintendent of Documents, Government Printing Office.* 1926. *Price* $0.65.

Medical News

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DR. CHEVALIER JACKSON WINS BOK PRIZE

Some years ago, Edward Bok deposited $200,000 as a trust fund, the interest of which ($10,000), together with a gold medal, was to go to the man or woman who had most conspicuously advanced the interests of Philadelphia during the year.

The prize and medal for 1927 have been awarded to Dr. Chevalier Jackson, professor of bronchoscopy and esophagoscopy at Jefferson Medical College. Dr. Jackson is the originator of most of the manipulations in these procedures and is, doubtless, the world's most distinguished bronchoscopist.

PHYSICIANS' HOME

In planning your charities for this year, do not forget the Physicians' Home, where aged and destitute doctors are made comfortable for the rest of their lives.

You might also suggest it to some of your benevolent patients who are looking for a worthy philanthropy.

There was an article about it in the February, 1925, CLINICAL MEDICINE, p. 109. If you want to know more, write to The Physicians' Home, Inc., 42nd Street and Broadway, New York, N. Y.

GEORGIA'S NEW DOCTOR-GOVERNOR

Lamartine Griffin Hardman was born in Jackson County, Georgia, April 14, 1856. He was educated in the public schools and was graduated from the Georgia Medical College in 1877. He did postgraduate work in Bellevue Hospital, New York, the University of Pennsylvania, the New York Polyclinic and Guy's Hospital, London, and has been prominent in the local and national medical societies.

Courtesy of *The City Builder*

Among his ancestors have been four governors of Georgia and Texas, and his recent political victory was decisive and significant.

We should have more physicians of this type in positions of power in this country.

SCHOOL FOR SOCIAL RESEARCH

The New School for Social Research is now in the eighth year of its existence. The recent fall and winter term has had the largest registration in the School's history. In the neighborhood of twelve hundred students have been enrolled in one or more

of the twenty-two courses. A typical class of ninety-six members includes representatives of thirty-eight different occupations. Among them are teachers, social workers, physicians, dentists, lawyers, bankers, secretaries, laboratory technicians, occupational therapists, hospital superintendents, and others.

The student coming to the New School is not confronted with entrance examinations. Neither are any required at the completion of a course. The fees for courses are moderate and within the financial possibilities of practically everyone.

For full information address the School at 465 West 23rd St., New York City.

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PHILADELPHIA BACTERIOLOGIST DISCOVERS SERUM FOR TREATMENT OF RHEUMATIC FEVER

Dr. James C. Small, chief bacteriologist of the Philadelphia General Hospital, claims to have developed an antitoxic serum for the treatment of acute rheumatic fever which is believed may also be used for the prevention of heart complications in this disease.

TYPHOID IN CHICAGO

Chicago is more highly civilized than her crime record would suggest. The civilization of a community may be figured in inverse ratio to its typhoid rate, and in the matter of typhoid Chicago stands first of all the great American cities with a death rate of only 0.79 per 100,000 of population, Milwaukee coming next, with 1.3 and Baltimore at the bottom, with 5.1 per 100,000.

In 1926 there were only 149 cases of typhoid in Chicago, with 24 deaths. If the same death rate that prevailed at the time of the World's Fair, in 1892, had continued there would have been 3,750 deaths from typhoid in Chicago last year.

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DR. STURGIS GOES TO UNIVERSITY OF MICHIGAN

Dr. Cyrus C. Sturgis, assistant professor of medicine at Harvard University, has been selected as director of the new Simpson Memorial Institute, of the University of Michigan, which is to be devoted to the exhaustive study of pernicious anemia.

LABELING OF CANNED GOODS

One occasionally sees cans of vegetables and fruits bearing a label which purports to show an analysis of the quantities of the various food ingredients which the can contains. This seems rather ridiculous when one considers that the mineral, carbohydrate and other constituents of all sorts of growing things vary within wide limits according to the soil and climate of the locality where they were grown. Individual specimens, grown in the same field or orchard, frequently vary among themselves.

When these foods are to be used for ordinary consumption by healthy adults,

errors in the labeling are negligible, but when the foods are supposed to be especially prepared for the use of diabetics and other invalids whose dietary requirements are special, it is wise not to place implicit confidence in the labels when prescribing these canned products.

SAUERKRAUT

Cabbage contains a high percentage of lime and is well supplied with the anti-scorbutic vitamine, and it lends itself well to preservation in the form of sauerkraut.

Now come the kraut packers with some interesting little booklets on the value of this healthful food, in which they quote eminent medical authorities as to its properties and give recipes for serving it in an appetizing manner.

This might be worth looking into.

HEALTH NEWS

The weekly Public Health Reports of the United States Public Health Service are now available to all persons in the United States and its possessions, Canada, Cuba, and Mexico, for the nominal subscription price of $1.50 per year.

These reports will be sent postage prepaid to each subscriber, to further increase knowledge about public health and sanitation. They contain information as to the world prevalence of disease, and each issue has special articles by experts on sanitation.

Subscription should be accompanied by money orders, and sent to the Superintendent of Documents, Government Printing Office, Washington, D. C.

SOME HEALTH STATISTICS

The following interesting figures are taken from the report of the Surgeon General, U. S. Public Health Service for 1925, issued a few months ago:

Diphtheria: Thirty-six states reported 81,816 *cases* of diphtheria (17 percent less than in 1924). More than 85 percent of deaths from this disease are of children less than 10 years old. Schick testing and immunization, generally practiced, would reduce these cases very materially.

Influenza and Pneumonia: Thirty-four states reported 113,762 *deaths* from influenza and pneumonia. (There were 105,109 deaths in 1924.)

Smallpox: Thirty-six states, with 93,650,000 population, reported 26,700 cases of smallpox, with 595 deaths (2.23 percent). The mortality varied greatly: Washington, D. C., 59 cases, 20 deaths; Omaha, Neb., 559 cases, no deaths. Virulent cases appear without warning when vaccination is neglected.

Tuberculosis: In 1900 the death rate from tuberculosis was 201.9 per 100,000; in 1924, 84.8; in 1925, 81.8. If the death rate for 1900 had continued, 112,000 people would have died in 1925 who are now living.

HUNTING MOSQUITOES WITH AIRPLANES

A recent exploit on the part of the U. S. Public Health Service, in the control of malaria, was the employment of airplanes to distribute arsenical dust for the destruction of mosquitoes.

NEED FOR RURAL HEALTH SERVICE

The Surgeon General of the U. S. Public Health Service reports that 84 percent of our rural population has no adequate, official, local health service, and that this lack has resulted in a loss of human life and earnings estimated at one billion dollars each year.

MOVIES IN MEDICINE

A remarkable advance in the study of diseased organs attributed to a new application of motion pictures to medical subjects consists in the ability to take both still and motion pictures of the interior of various organs which have hitherto been inaccessible to such study. The device by which this is attainable is the invention of Dr. J. F. Montague, of the Univ. and Bellevue Hospital Medical College Clinic. It consists of a thin metal tube within which are placed both the lighting apparatus and a series of lenses resembling a microscope. The actual camera used is one of the type now so popular among amateur movie fans.

A very interesting application of the device is as follows: Motion pictures of the interior of certain organs such as the intestines are taken when the patient first comes to the hospital and similar pictures are taken at weekly intervals while the patient is under treatment. Then by patching these strips of film together and running them on a projecting machine the case can be seen to get well before your very eyes in but a fraction of the time actually required for the healing process. A special advantage

of this can be readily understood, because it furnishes an accurate record of the changes to be found and eliminates all guess work as to whether or not the patient has improved, since the doctor no longer has to rely upon memory but, by comparing the pictures, can have accurate means of judging the changes. Dr. Montague predicts that within a few years there will be no medical school in America that will remain unequipped with means for illustrating clinical work with the aid of motion pictures.

UNITED STATES CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces the following open competitive examinations:

Applications for *Assistant Medical Officer; Associate Medical Officer; Medical Officer;* and *Senior Medical Officer* will be rated as received by the United States Civil Service Commission at Washington, until June 30, 1927.

There is especial need for medical officers qualified in tuberculosis or neuropsychiatry, for duty at hospitals of the Veterans' Bureau. There are a number of vacancies in positions in the Indian Service which call for training in general medicine and surgery. In addition, there is opportunity for appointment of specialties in practically all branches of the profession.

In addition to the Veterans' Bureau and the Indian Service, appointments from these examinations will be made to the Public Health Service, The Coast and Geodetic Survey, the Panama Canal Service, the Departmental Service at Washington, and other branches.

The demand for specialized medical officers in the Federal service is constant and the supply of eligibles is rarely equal to the demand.

Applicants will not be required to report for written scholastic tests, but will be rated on their education and training, and their practical experience.

Applications for *Physiotherapy Aide; Physiotherapy Pupil Aide;* and *Physiotherapy Assistant* must be on file at Washington, D. C., not later than March 12 and May 28, 1927. The date of assembling of competitors will be stated on admission cards sent to applicants and will be about ten days after the date for the close of receipt of applications. Applications received after a closing date will be considered for the next date.

Competitors will be rated on practical questions and their education, training, and experience. Competitors in the examinations for physiotherapy aide and physiotherapy pupil aide will also be rated on a mental test.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D.C., or the secretary of the board of U. S. civil-service examiners at the post office or customhouse in any city.

WESTERN PHYSIOTHERAPY ASSOCIATION

The ninth annual meeting of the Western Physiotherapy Association will be held at the Hotel President, Kansas City, Mo., April 8 and 9, 1927. There will be a large exhibit and an interesting program.

The Western School of Physiotherapy will hold its sessions at the same place from April 4 to 7.

Full information may be obtained from Dr. Charles W. Fassett, 115 East 31st St., Kansas City, Mo.

AMERICAN DENTAL ASSOCIATION

The American Dental Association held its annual meeting in Chicago the week ending January 28, 1927, with a large attendance.

Dr. R. H. Volland, of Iowa City, was elected president for the ensuing year.

DR. E. S. BISHOP

Dr. Ernest S. Bishop died at his summer home at Blandford, Mass., on November 15, 1926.

Dr. Bishop was born in November, 1876, and was educated at Brown University, Cornell Medical School and Bellevue Hospital. He was widely known for his researches regarding the nature and cure of narcotic addiction.

DR. J. R. HAMILTON

Dr. James Richard Hamilton, of Washington, D. C., died September 11, 1926, having practiced in that city for 35 years.

Dr. Hamilton was one of the pioneers in the use of active principles in general practice in the District of Columbia.

Send for This Literature

To assist doctors in obtaining current literature published by manufacturers of equipment, pharmaceuticals, physicians' supplies, foods, etc., CLINICAL MEDICINE AND SURGERY will gladly forward requests for such catalogues, booklets, reprints, etc., as are listed from month to month in this department. Some of the material now available in printed form is shown below, each piece being given a key number. For convenience in ordering, our readers may use these numbers and simply send requests to this magazine. Our aim is to recommend only current literature which meets the standards of this paper as to reliability and adaptability for physicians' use.

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment or medical supplies. Make use of this department.

MM-30 Helping the Cell to Help Itself. 32-page booklet by The Alkalol Co.

MM-31 The Romance of Digitalis — The Story of Its Discovery. 12-page booklet by Hoffman-La Roche Chem. Co.

MM-55 Your Prestige and Profit. 8-page booklet. The Carroll Dunham Smith Pharmacal Co.

MM-69 Gonosan. 4-page folder by Riedel & Co.

MM-75 Intestinal Rectal and Anal Pathology. Booklet by Nujol Laboratories.

MM-81 Auto-Intoxication. 20-page booklet by Burnham Soluble Iodine Co.

MM-84 Storm Binder and Abdominal Supporter. 4-page folder by Dr. Katherine L. Storm.

MM-198 Pluto Water. Its Medicinal Values. 16-page booklet. French Lick Springs Hotel Co.

MM-222 Rabies Vaccine. 24-page booklet. Parke, Davis & Co.

MM-238 Ethical Medicinal Specialties. 8-page booklet. A. H. Robins Co.

MM-309 The Journal of Organotherapy. 95-page booklet published monthly. G. W. Carnrick Company.

MM-311 The Cure of Cystitis, Pyelitis and other Inflammatory Conditions of the Urinary Tract. Chicago Pharmacal Co.

MM-403 Medinal. 4-page folder. Schering & Glatz, Inc.

MM-682 Selected List of Special Formulas. 16-page booklet Maltbie Chemical Co.

MM-685 Theocalcin—A Diuretic and Vascular Remedy. E. Bilhuber, Inc.

MM-689 A Few Notes Regarding Psychoanalysis. 32-page booklet. Fellows Med. Mfg. Co.

MM-706 The Prevention of Fecal Retardation. William R. Warner & Co., Inc.

MM-762 Campho-Phenique Ointment. Campho-Phenique Company.

MM-779 The Dangers of Curettage. Huston Bros. Company.

MM-781 Hang This Up—It Tells How to Make Percentage Solutions. Sharp & Dohme.

MM-785 Health You Admire. How Thousands Have Conquered Their Ills. The Fleischmann Co.

MM-810 Mellin's Food — A Milk Modifier. Mellin's Food Co.

MM-812 Equisetene, A Perfect Suture. The Kahlenberg Labs., Inc.

MM-827 Ampoule Solutions for Hospitals. Swan-Myers Co.

MM-828 The Mucin Plaque Menace, Bulletin Seventeen. The Pepsodent Co.

MM-829 Iodipin 40 percent Iodized Vegetable Oils Merck. Merck & Co.

MM-831 Ovarian Endocrine Therapy. Ciba Company.

MM-833 Spleenmarrow. The Wilson Laboratories.

MM-834 Twentieth Century Health Builders. Burdick Cabinet Company.

MM-835 Modified Sippy Method with Petrolagar-Alkaline for Treating Gastric Ulcer as Practiced at Mayo Clinic Rochester, Minn. Deshell Labs.

MM-836 Bring the Sex Hormones to the Medical Profession. Reed & Carnrick

MM-837 How to use Pan-Secretin Co. (Harrower) with Most Success in Diabetes. Harrower Laboratory.

MM-838 Prometheus Sterilizers of Quality. The Prometheus Elec. Corp.

MM-839 Handbook of Intravenous Medication. Geo. A. Breon & Co.

MM-840 Mobeneate. Seydel Chem. Co.

MM-841 Benzocaine. Seydel Chem. Co.

MM-842 Mercodel. Seydel Chem. Co.

MM-843 The Choleretic Action of Tolysin. The Calco Chem. Co.

MM-844 The Quartz Lamp. Feb. 15, 1926. Hanovia Chem. & Mfg. Co.

MM-845 What One Dollar Will Do. Taylor Instrument Companies.

MM-847 Visceral Pain. Its Interpretation and Treatment. Battle & Co.

MM-848 Tycos Blood Pressure Manual. Taylor Instrument Companies.

MM-849 Tycos Urinalysis Glassware. Taylor Instrument Companies.

MM-850 Topical Treatment of Disease. Menley & James, Ltd.

MM-851 First Aid, What Not to Do and What to Do in Minor Emergencies. Menley & James, Ltd.

MM-852 Rubber Gloves. Massillon Rubber Company.

MM-853 The Role of Irradiation in Focal Infections and Obstructive Deafness by Ira O. Denman, M.D., F.A. C.S., Toledo, Ohio. Hanovia Chem. & Mfg. Co.

MM-855 Light in Medicine and Surgery by Herman Goodman, B.S., M.D. Actino Labs.

MM-856 Ultra-Violet Therapy, The Mountain Sun. Actino Labs.

MM-857 Siomine. Pitman-Moore Company.

MM-858 The Technique of Intravaneous Injection. Pitman-Moore Company.

MM-861 Light Therapy, February, 1927. Burdick Corp.

MM-863 Cholecystography. The Lafayette Pharmacal Co.

MM-864 The Ideal Urinary Antiseptic. Riedel & Co., Inc.

MM-865 Symposium on the Intravenous Administration of Mercurochrome. Feb., 1927. Loeser Laboratory.

MM-866 The Quartz Lamp, Feb. 15, 1926. Hanovia Chem. & Mfg. Co.

MM-867 X-Ray Questions and Answers. Victor X-Ray Corp.

MM-868 The Tonic Effect of Ultraviolet Radiations on Malnourished Infants and Children. Victor X-Ray Corp.

MM-869 Contrast Media for X-Ray Diagnosis. Merck & Co.

MM-871 Milk Modification in Infant Feeding. Wm. S. Merrell Co.

MM-872 Loeser's Quick Release Intravenous Tourniquet. Loeser Laboratory.

MM-873 The Bloodless Phlebotomist, Vol. VI, No. 2. The Denver Chem. Mfg. Co.

MM-874 A Compend of High Frequency Currents and their Therapeutic Uses. McIntosh Electrical Corp.

MM-875 Obesity in Females. The Tilden Co.

MM-876 The Electron, January, 1927. McIntosh Electrical Corp.

MM-877 The Ideal Anti-Gonorrheic. Riedel & Co., Inc.

MM-878 Some Clinical Fallacies. Battle & Co.

MM-879 The Clinical Digest, January, 1927. The Anasarcin Chem. Co., Inc.

MM-880 Break the Vicious Circle in Hemorrhoids. Schering & Glatz, Inc.

MM-881 Atophan-Salicylic Compound and Other Atophan Compounds. Schering & Glatz, Inc.

MM-882 Endocrines and Hormones. Huston Brothers.

MM-883 Digitalis Therapy. Ciba Company.

MM-884 Colonic Therapy as an Adjunct in the Eradication of Amoebae. Schellberg Mfg. Co.

MM-885 A Short Treatise on Colonic Therapy. Schellberg Mfg. Co.

MM-886 The Functional Test in Renal Diseases. Reed & Carnrick.

MM-887 "Bäderkalender"; a reference book in German on all German Resorts, with general introductory remarks on balneological therapy. German Health Resorts, N. Y.

MM-888 Bensusan; an English reference book on German Resorts.

MM-889 German Resorts; a folder on German Resorts which gives in condensed form the indications, prices for room and board, and figures for ocean and railway fare, in fact brief, complete information from a financial point of view.